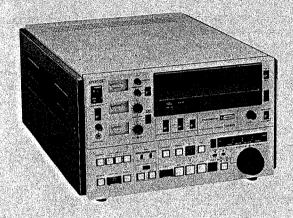
SONY

VIDEOCASSETTE RECORDER

BVU-800P



Professional Tematic Control of the Professional Tematic Control of the Professional Tematic Control of the Professional Operation (National Control of the Professional Control of the Profession

WARNING

To prevent fire or shock hazard, do not expose the set to rain or moisture.



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,

DO NOT REMOVE COVER (OR BACK).

NO USER-SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC. Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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SECTION 1 OPERATION

1-1. FEATURES

Quick access to the edit points

Search functions providing a recognizable picture in the shuttle mode (in which the playback speed can be varied from 1/30 to 10 times normal speed in both forward and reverse) and the jog mode (in which the picture moves as the search dial moves), enable operators to locate the edit point more quickly. Also in the fast forward and rewind mode, the tape is threaded around the drum and a recognizable picture can be obtained using a time base corrector.

Edit functions

In the assembly edit mode, the video, audio channel 1 and channel 2 signals can be edited simultaneously. In the insert edit mode, the video, audio channel 1 and channel 2 signals can be edited independently. The edit material can be viewed before and after recording.

Front access

Every operation, including cassette insertion and removal, is performed from the front panel, which can be tilted to individual's preference up to 90° (6 steps).

Remote control

When editing using two BVU-800P video cassette recorders, the front panel controls of the recorder, which can be detached, can also remotely control the player.

Time code recording/playback function

The tape has a special channel, the address track, which allows the EBU time code to be recorded and played back without sacrificing an audio channel with a time code generator and reader.

ϕ^2 (Phi square)-servo loop circuit

The BVU-800P feature prevents picture disturbances ("flagging" or "whipping") at the edit point, since it ensures proper H-phase and frame phase alignment. The H-phase alignment is performed automatically.

Capstan servo

The BVU-800P incorporates a capstan servo circuit which locks onto the external signal.

Framing servo

This identifies each even and odd field in a given frame, and ensures that edits occur precisely between the end of an even field and the start of the next odd field, for clean edits.

Color framing

The BVU-800P incorporates a color framing circuit which identifies each of the four fields in a frame and aligns the fields to prevent the color flashing at the edit point.

Direct drive system with six DC motors

Six motors are mounted independently in the BVU-800P.

Brushless DC motor, directly coupled with the drum assembly and newly developed brushless DC motor, is employed to the capstan assembly. Since the supply reel and the take-up reel are driven by the independent motors and the tension on the tape is precisely set by a servo system, quick access can be made.

Digital time counter

The time counter indicates the amount of tape advancement at normal speed in hours, minutes, seconds and frames by counting the CTL signals. It can also indicate the lap time of editing.

Automatic/manual video recording systems

System provides a choice of either AUTO or MANUAL video recording level control.

Audio system

The audio recording and playback levels can be adjusted separately. If necessary, a limiter can be activated so that virtually distortion-free recordings of sudden, very strong input signals can be made. The CH-1 and CH-2 audio signals can be mixed while recording.

Editing/duplicating connectors

DUB IN and DUB OUT connectors permit editing and duplicating of video signals with little degradation, even over several generations.

Time base corrector (TBC) connection

The BVU-800P is provided with an external subcarrier input connector (SC IN) and an external sync input connector (EXT SYNC IN) which allow it to be connected to a time base corrector. It is also possible to connect an external dropout compensator (from a TBC, etc.) to the BVU-800P's RF OUTPUT connector. A time base corrector such as a BVT-2000P can be employed.

Auto rewind/auto stop

Auto rewind function automatically rewinds the tape to the beginning at the end of the tape. Auto stop function automatically stops the tape at the top of the tape.

Indicator lamps

These lamps are conveniently located on the front panel, notifying the operator of the conditions of the color framing servo lock, of internal moisture condensation, time code recording/playback and of the operation of the capstan and drum servo lock.

Plug-in boards and modules

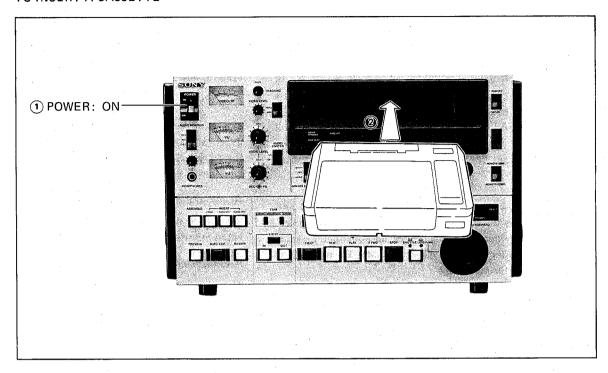
Plug-in boards and modules are designed for the ease of the service and maintenance by simply removing the top panel.

Mountable in standard 19" rack

The BVU-800P is mountable in a 19" standard rack.

1-2. CASSETTE INSERTION AND REMOVAL

TO INSERT A CASSETTE



• The tape will be automatically threaded, the drum will rotate and a still picture will be displayed.

TO REMOVE A CASSETTE

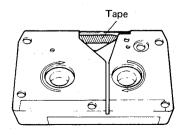
Press the EJECT button while the POWER switch is set to ON.

- Notes: Use Sony U-matic (or its equivalent) type KCA-60 (60 minutes) and KCS-20 (20 minutes) video cassette tapes with this machine.
 - Remove the cassette after every use before the power is turned off.

 If you have turned off the power with the cassette in, turn on the power

 (The EJECT lamp will light for a moment and then the STANDBY and the

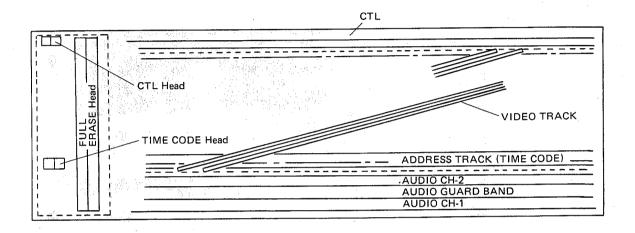
 STOP lamp will light.) After the STOP lamp lights, press the EJECT button
 to eject the cassette.
 - When over winded tape cassette is threaded, the machine automatically detects it and goes into fast forward or rewind mode in order to prevent accidental head tip damage by the leader tape. Only if a KCA cassette in which the leader strip of the tape end has accidentally been drawn out is inserted, the cassette will be automatically ejected. In this case, turn the supply reel by hand until the end-leader strip is wound onto the supply reel and re-insert the cassette.

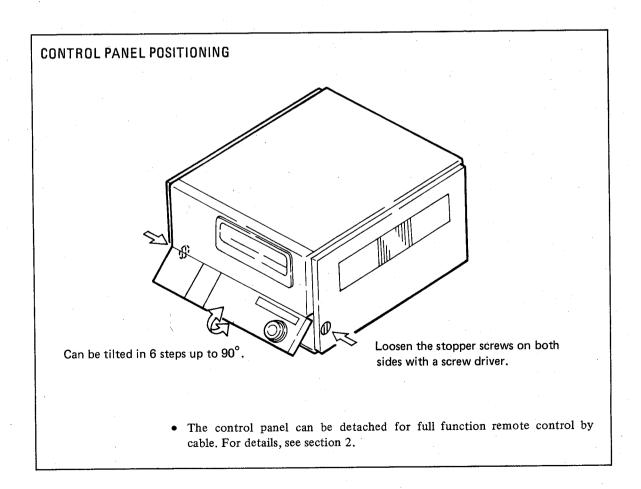


To keep a recorded program from being accidentally erased

Remove a small round red cap on the bottom of a cassette, so that the record function cannot be activated. If you wish to record on a cassette which has had the cap removed, replace the cap again. In normal use, keep this cap in place.

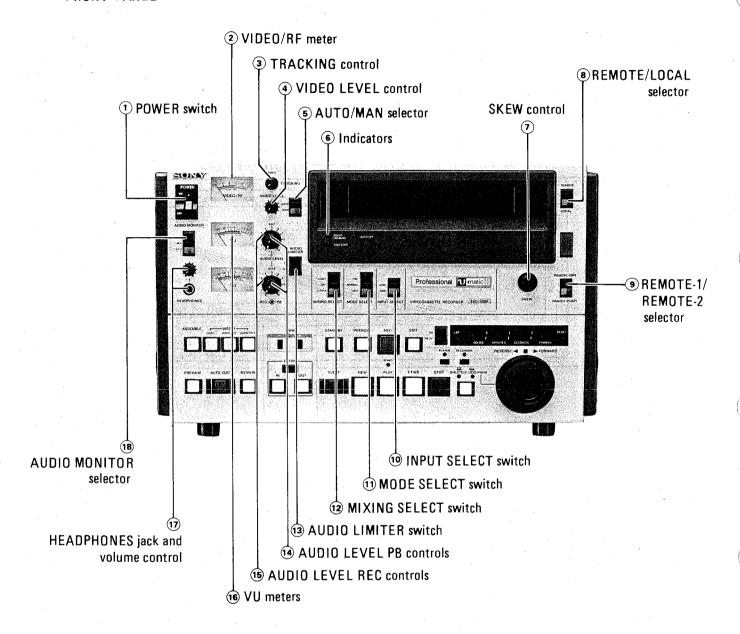
• The illustration below shows the tape pattern recorded using this machine with the time code generator.





13. LOCATION AND FUNCTION OF CONTROLS

FRONT PANEL



1 POWER switch

Press ON to turn on the power. The meters and the counter figure 0:00:00:00 will light up.

2 VIDEO/RF meter

Indicates the input video level during recording or E-to-E mode.

Indicates the playback FM signal level (tracking level) during playback.

3 TRACKING control

This control adjusts the tracking of the tape during playback.

Normally, set this control to the center FIXED

position.

When a noise appears in the playback picture, turn this control to the left or right so that the VIDEO/RF meter (2) needle points to the maximum value. After the playback of a tape with noise, return the control to the FIXED position.

While recording, always set this control to the FIXED position. If you adjust the control during recording, the playback picture may be unstable at this point.

(4), (5) VIDEO LEVEL (AUTO/MAN) selector and control

AUTO: The sync AGC circuit is activated and the video input level is automatically adjusted. The sync AGC circuit detects the input sync signal level and provides automatic gain control.

MAN: The input video level during recording E-to-E mode can be adjusted manually. Turn the VIDEO LEVEL control so that the pointer of the VIDEO/RF meter ② is in the blue zone.

6 Indicators

FRAMING: Lights when the COLOR FRAMING

switch on the rear panel is set to ON and the color framing mechanism is activated.

TIME CODE: Lights when the time code signals are

being recorded or played back.

AUTO OFF: Lights when the moisture condensation

is detected inside the unit or while the

irregular tape tension is detected.

SKEW control

This control adjusts the tension of the tape. The top of the picture may be distorted if the tape has been recorded on a unit-under abnormal tension condition. Turn this control so that you obtain the best possible picture. This control automatically returns to the FIXED position when the unit is set in the record mode.

8 REMOTE/LOCAL selector

REMOTE: When the unit is to be remotely controlled by another BVU-800P or an editing control. unit connected to the REMOTE connector of the unit, set this switch to REMOTE. The function buttons (except the STOP and EJECT button) do not operate.

LOCAL: When the unit is to be operated by its own function buttons or when the unit is to be used as a recorder and to remotely operate another BVU-800P connected to the REMOTE connector (9 pin) as a player.

9 REMOTE-1 (9 pin)/REMOTE-2 (36 pin) selector

When the REMOTE/LOCAL selector (8) is set to REMOTE, set this selector to the appropriate position. REMOTE-1: When the 9-pin REMOTE connector is

used.

REMOTE-2: When the 36-pin REMOTE connector is used.

10 VIDEO INPUT SELECT switch

Selects the video signals to be recorded.

LINE: Signals from the VIDEO IN connectors will be recorded.

DUB: Signals from the DUB connector will be recorded.

1 MODE SELECT switch

Selects the reference signal for servo lock.

TBC: When playing back with a TBC connected NORMAL: When playing back without a TBC connected or recording

EDIT: When editing

Regarding the relationship between this switch and the SERVO LOCK selector on the rear panel, see the table in "MODE SELECT SWITCH AND SERVO LOCK SELECTOR".

12 MIXING SELECT switch

Selects the channel the mixed audio signals of CH-1 and CH-2 are to be recorded.

to CH-1: The mixed signal will be recorded on CH-1.

(The audio signal of CH-2 will be recorded on CH-2.)

OFF: The audio signal of CH-1 and CH-2 will be recorded on CH-1 and CH-2, respectively.

to CH-2: The mixed signal will be recorded on CH-2.

(The audio signal of CH-1 will be recorded on CH-1)

This switch also selects the channel the mixed audio signals are to be output in the E-to-E mode.

13 AUDIO LIMITER switch

The limiter control circuit is actuated when this switch is set to ON. The circuit limits sudden surges of input signals to a fixed level during recording so that satisfactory recording characteristics can be obtained with low distortion.

(A) AUDIO LEVEL PB controls (The inner control)

Adjust the output audio level of CH-1 and CH-2. When the unit is in the playback mode, turn this control so that the maximum value on the VU meter (16) is 0 VU.

(15) AUDIO LEVEL REC controls (The outer control)

Adjust the input audio level of CH-1 and CH-2. When the recorder is in the E-to-E mode, turn this control so that the maximum value on the VU meter (6) is 0 VU.

(6) VU meters

Indicate the input audio level when the unit is in the record or E-to-E mode, and the output audio level when the unit is in the playback mode.

17 HEADPHONES jack and volume control

Connect 8-ohm stereo headphones here. The audio during recording, edit-recording or playback can be monitored. The volume is adjusted with this control.

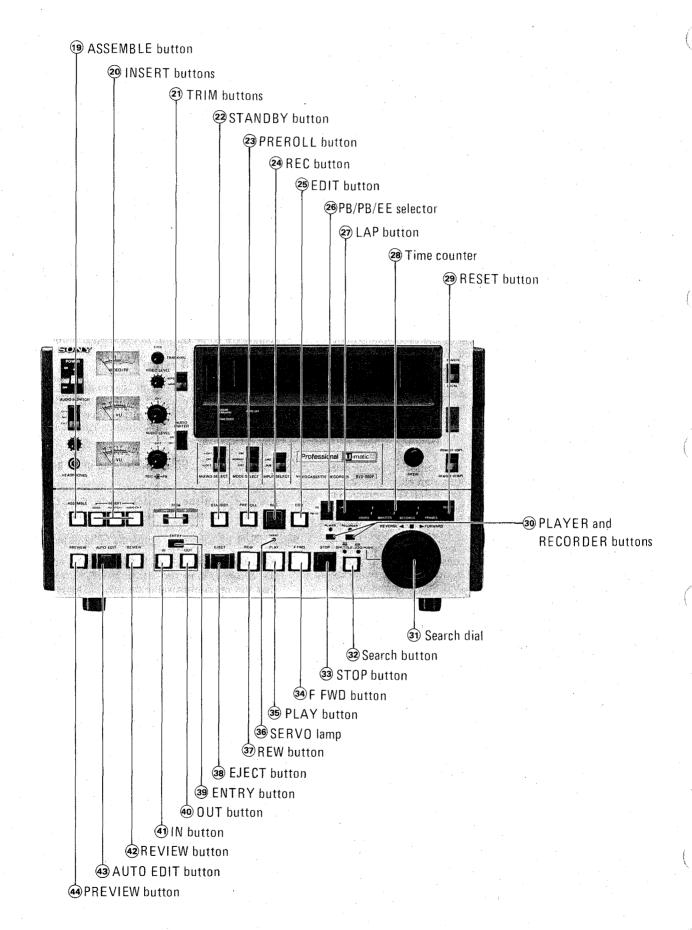
18 AUDIO MONITOR selector

Selects the audio output from the HEADPHONES jack (17) and MONITOR connectors on the rear panel.

CH-1: Audio channel 1

MIX: Both channels 1 and 2 from the HEAD-PHONES jack or both channels mixed from the MONITOR and AUDIO OUT MONITOR connectors.

CH-2: Audio channel 2



19 ASSEMBLE button

Press this button to set the unit in the assembly edit mode. Pressing the button turns it on and pressing it again turns it off.

20 INSERT buttons

Selects the input signal for insert editing. Pressing the button turns it on and pressing it again turns it off.

(21) TRIM buttons

The memorized edit-in and edit-out points can be moved any number of frames. While pressing the IN or OUT button, press the appropriate button.

23 STANDBY button

While the power is on, the STANDBY lamp is lit indicating that the drum rotates and the unit is in the standby mode.

When this button is pressed during the stop mode, the drum will stop rotating and the tension on the tape is slackened, which protects the video head from being clogged. To put the unit in the stop mode or in other function mode, press the STANDBY button or the desired function button (except the STOP button).

23 PREROLL button

Press this button to run the tape at high speed to a preroll point 10 seconds (or 5 seconds depending on the setting of the preroll time switch) prior to the edit-in point.

If the edit-in point has not been entered and this button is pressed, the point where the button has been pressed will be entered as the edit-in point and the preroll will proceed.

24 REC (record) button

Press this button and the PLAY button simultaneously to set the unit in the record mode.

While this button is pressed in the play, search, fast forward or rewind mode, the E-to-E mode video and audio can be monitored. Release the button to set the unit in the same mode as before the button was pressed. In the stop mode, the E-to-E mode picture and audio are kept monitored when the button is pressed and released. Press the STOP button to set the unit in the previous mode.

25 EDIT button

Press this button and the PLAY button simultaneously for manual editing.

While this button is pressed in the play, search, fast forward or rewind mode, the selected E-to-E mode video and audio can be monitored. Release the button to set the unit in the same mode as before the button was pressed. In the stop mode, the selected E-to-E mode picture and audio are kept monitored when the button is pressed and released Press the STOP button to set the unit in the previous mode.

26 PB/PB/EE selector

Selects the video and audio to be monitored. For details, see the table on page 1-14.

27 LAP button

When this button is pressed, the lap time will be indicated by the time counter.

28 Time counter

Indicates how much the tape has advanced at normal speed in hours, minutes, seconds and frames.

29 RESET button

Press this button to set the counter number to "0:00: 00:00". The memorized counter numbers of edit-in and edit-out points are cleared when this button is pressed.

30 PLAYER and RECORDER buttons

When two BVU-800Ps are connected for editing, the PLAYER button on the recorder is used to remotely control the player.

RECORDER button: Press this button to use the function buttons on the recorder

function buttons on the recorder in the usual way.

PLAYER button:

Press this button so that the standby, eject, fast forward, play, rewind, stop, shuttle, jog, preroll, entry in/out, trim and time counter functions of the player can be remotely controlled with the buttons on the recorder.

(31) Search dial

This dial is used to quickly locate the desired editing points.

Pressing the dial in sets the unit in the jog mode and pressing it again sets the unit in the shuttle mode. The appropriate lamp lights.

SHUTTLE: Turn the dial to the right or left. The tape speed can be varied 1/30, 1/10, 1/5, 1/2, 1,

2, 5 or 10 times normal in either direction.
Rotate the dial to the right or left. The tape moves in the direction and at the speed of rotation, from 0 to 1 normal

speed. When you stop rotating the dial, a still picture will be obtained.
When the power is turned on, be sure to set the dial to the position once before it is used.

32) Search button

Press this button to set the unit in the search mode.

33 STOP button

Press this button to set the unit in the stop mode. The reel motor stops, the pinch roller is released, the drum rotates and the tape is threaded.

34 F FWD (fast forward) button

Press this button to advance the tape rapidly.

35 PLAY button

Press this button to play back the tape.

Press this button and the REC button simultaneously to record.

During playback press this button and the EDIT button simultaneously to edit manually.

During manual recording, press this button to stop the recording.

36 SERVO lamp

This lamp lights when the drum servo and the capstan servo are locked.

37 REW (rewind) button

Press this button to rewind the tape.

38 EJECT button

When this button is pressed, the tape is unthreaded and the cassette is ejected. The counter is reset to "0:00:00:00" when the time counter functions in the CTL mode.

• Be sure to eject the cassette after every use before the power is turned off.

39 ENTRY button

Press this button and the IN or OUT button simultaneously to enter the edit-in or edit-out point.

40 OUT button

When this button and the ENTRY button are pressed simultaneously, the edit-out point will be entered. When this button is pressed, the edit-out point frame number will be displayed on the time counter.

(41) IN button

When this button and the ENTRY button are pressed simultaneously, the edit-in point will be entered. When this button is pressed, the edit-in point frame number will be displayed on the time counter.

42 REVIEW button

Press this button to review the edit-recorded picture and sound.

43 AUTO EDIT buttton

Press this button for automatic edit-recording.

44 PREVIEW button

Press this button for an edit-recording rehearsal. The edited tape to be recorded can be monitored prior to the actual recording.

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± 2

18 REMOTE-1 connector (9-pin)

Connect another BVU-800P for editing with the 9-pin remote control cable (supplied).

19 HOURS METER

This meter operates while the tape is running to record the total elapsed time the unit is in the record, playback, editing, search, fast forward or rewind mode to a maximum of 1000 hours.

20 VOLTAGE SELECT

Adjustable to 100, 120, 220 or 240 Vac

(21) ACIN connector

Connect to a wall outlet with the ac power cord supplied.

22 TBC connector

A time base corrector can be connected.

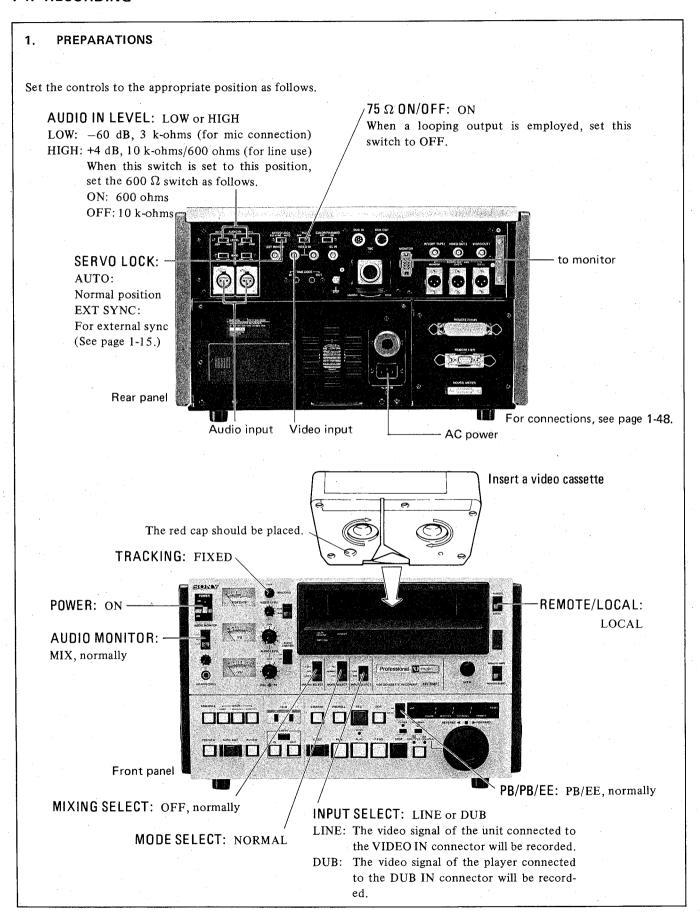
23 TIME CODE OUT connector (RCA phono)

The played back time code signal is supplied from this connector. A time code reader can be connected. In the record or E-to-E mode, the time code signal from the TIME CODE IN connector (24) will be supplied.

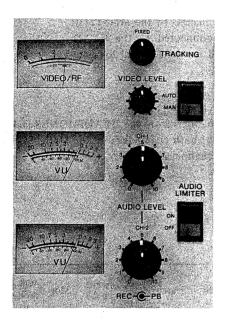
TIME CODE IN connector (RCA phono)

This is to record the time codes on the tape track. Connect a time code generator.

1-4. RECORDING



2. VIDEO AND AUDIO LEVEL ADJUSTMENTS



Video level

To adjust the video level automatically, set the VIDEO LEVEL switch to AUTO.

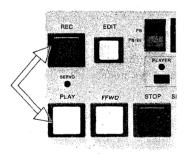
To adjust the video level manually, set the VIDEO LEVEL switch to MAN and turn the VIDEO LEVEL control so that the meter's pointer is within the blue zone.

Audio level

Set the AUDIO LIMITER switch to OFF. Adjust the AUDIO LEVEL controls for channels 1 and 2 so that AUDIO LEVEL meters read approximately zero at the maximum deflection.

If you want to record audio using the limiter, set the AUDIO LIMITER switch to ON.

3. TO START RECORDING



Press the REC and PLAY buttons simultaneously. It takes several seconds for the drum and capstan servo to lock. The servo lamp will light.

The lamps lit: REC, PLAY, STANDBY

To stop recording, press the STOP button.

The lamps lit: STOP, STANDBY

If the tape reaches the end, it will automatically rewind

to the beginning and stop.

TO MONITOR VIDEO AND AUDIO SIGNALS

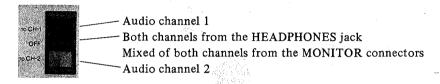
Video signals: Can be monitored with a monitor connected to the VIDEO OUT

connector or the MONITOR connector.

Audio signals: Can be monitored with audio systems connected to the AUDIO

MONITOR connector, with a monitor connected to the MONITOR connector, or with a stereo headphones connected to the HEAD-PHONES jack. The signals to be monitored can be selected by using

the AUDIO MONITOR selector as follows.



SETTING THE PB/PB/EE SELECTOR

This selector selects the picture and audio on the monitor.

Mode Selector position	Cassette up	Threading or unthreading	Play	Record	Edit	Search	Fast forward or rewind	Stop	When the standby mode is turned off
PB/EE	EE	EE	PB	EE	EE	PB	EE	EE	EE
PB	EE	EE	PB	EE	EE	PB	РВ	PB	РВ

While the REC button is pressed in the play, search, fast forward or rewind mode, the E-to-E mode picture and audio can be monitored. While the EDIT button is pressed, the E-to-E mode picture and audio selected by the ASSEMBLE or INSERT buttons can be monitored. When the button is released, the unit will set to the prior condition.

In the stop mode, the E-to-E mode picture and audio are kept monitored when the REC or EDIT button is pressed and released. Press the STOP button to set the unit into the prior condition or press the proper button to set the unit into another mode.

MODE SELECT SWITCH AND SERVO LOCK SELECTOR

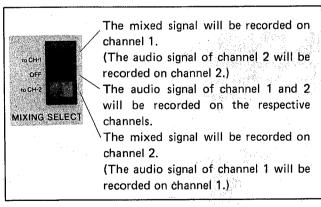
These switches select the video signal from the VIDEO IN or DUB IN connector, the external signal from EXT SYNC IN connector or the internal sync signal as the reference signal for servo lock.

11/ /	D LOCK position		AUT0		EX	EXT SYNC	
VTR operating mode		Recording	Playbac	ck, E-E	Recording	Playback, E-E	
switch	SELECT position signal to EXT SYNC	EDIT, NORMAL, TBC	ËDIT	NORMAL TBC	EDIT, NO	DRMAL, TBC	
Yes	Yes	VIDEO	VIDEO (EXT SYNC)*	EXT SYNC IN (VIDEO)**	EXT	SYNC IN	
Yes	No	VIDEO	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DEO ync signal)*	VIDEO	VIDEO (Internal sync signal) *	
No	Yes		EXT SYNC		IN		
No	No			Internal sync	signal		

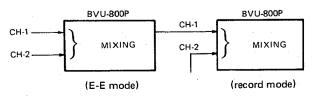
^{*} When the player is in the mode other than playback during editing using the BVE-500, BVE-500ACE, BVE-800 or two BVU-800Ps, the recorder's servo reference signal is as indicated in parentheses.

MIXING THE AUDIO SIGNALS

The audio signals of channel 1 and channel 2 can be mixed during recording. It is also possible to record the mixed signal on either channel 1 or channel 2 by setting the MIXING SELECT switch as follows:



- The mixed audio input signals of channels 1 and 2 will be mixed recorded at the same level.
- When two BVU-800Ps are connected, three of audio signals can be mixed.



TAPE PROTECTION

If the unit stays in the stop mode for more than 8 minutes, the unit will automatically turn off the standby mode (the drum stops rotating) to protect the tape and the video heads. If the tape is stopped in the search mode for more than 8 minutes, the tape will advance in forward direction at the 1/30 normal speed. To set the unit into the desired mode (except the stop mode) press the appropriate button. To set the unit into the stop mode, press the STANDBY button.

MOISTURE CONDENSATION

If the moisture is condensed, the drum and the capstan motors stop and the cassette will be ejected. The AUTO OFF lamp on the front panel will light. Then the drum will begin rotating again. To operate the machine, wait until the AUTO OFF lamp will go off and about ten minutes will have passed.

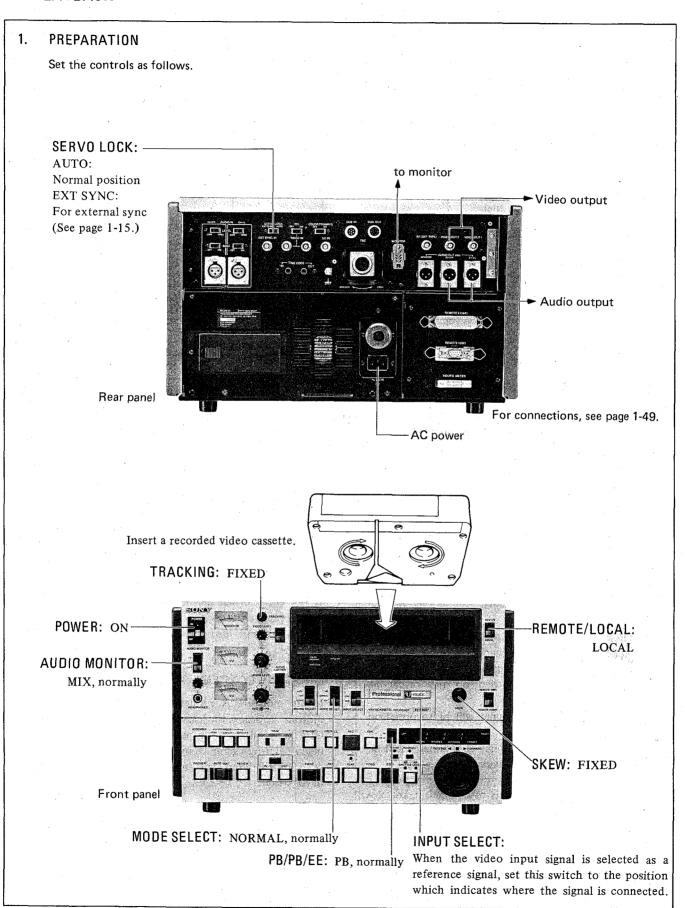
TIME CODE RECORDING

For simultaneous recording of time code, connect an EBU time code generator to the TIME CODE IN connector. No adjustment is necessary, as the time code is recorded with the limiter.

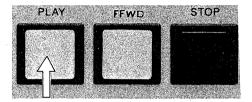
During recording, the TIME CODE lamp lights.

^{**} On the model with the serial number 11491 and higher, the recorder's reference signal will be VIDEO when one of the ASSEMBLE or INSERT buttons is pressed (the button is lit), and the VTR is in the PLAY mode or the EDIT button is lit.

1-5. PLAYBACK



2. TO START PLAYBACK



Press the PLAY button.

It will take several seconds for the drum and the capstan servo to lock. The servo lamp will light when the servo is locked.

The lamps lit: PLAY, STANDBY

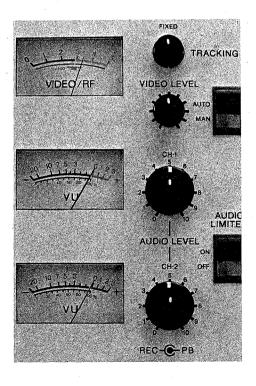
To stop playback, press the STOP button.

The lamps lit: STOP, STANDBY

If the tape reaches the end, it will automatically rewind to the beginning and stop.

•

3. ADJUSTMENTS



TRACKING AND SKEW ADJUSTMENTS

Normally, set these controls at the FIXED position.

If a noise appears on the playback picture,

Turn the TRACKING control to left or right so that the pointer of the VIDEO/RF meter points as far to the right as possible.

 When the playback of the particular tape is finished, return the control to the FIXED position.

If the top of the picture is distorted,

Turn the SKEW control to the position which gives the best possible picture.

VIDEO AND AUDIO LEVEL ADJUSTMENTS

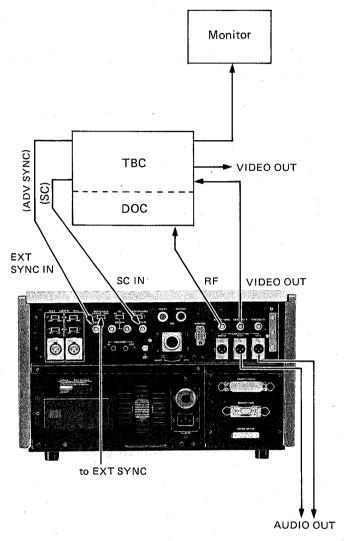
Video level

The video level is adjusted automatically.

Audio level

During playback, adjust the AUDIO LEVEL controls for channels 1 and 2 so that the AUDIO LEVEL meters read approximately zero at the maximum deflection.

PLAYBACK WITH A TIME BASE CORRECTOR



Set the MODE SELECT switch on the front panel to TBC.

TO MONITOR VIDEO AND AUDIO SIGNALS

See page 1-14.

AUTOMATIC RELEASE

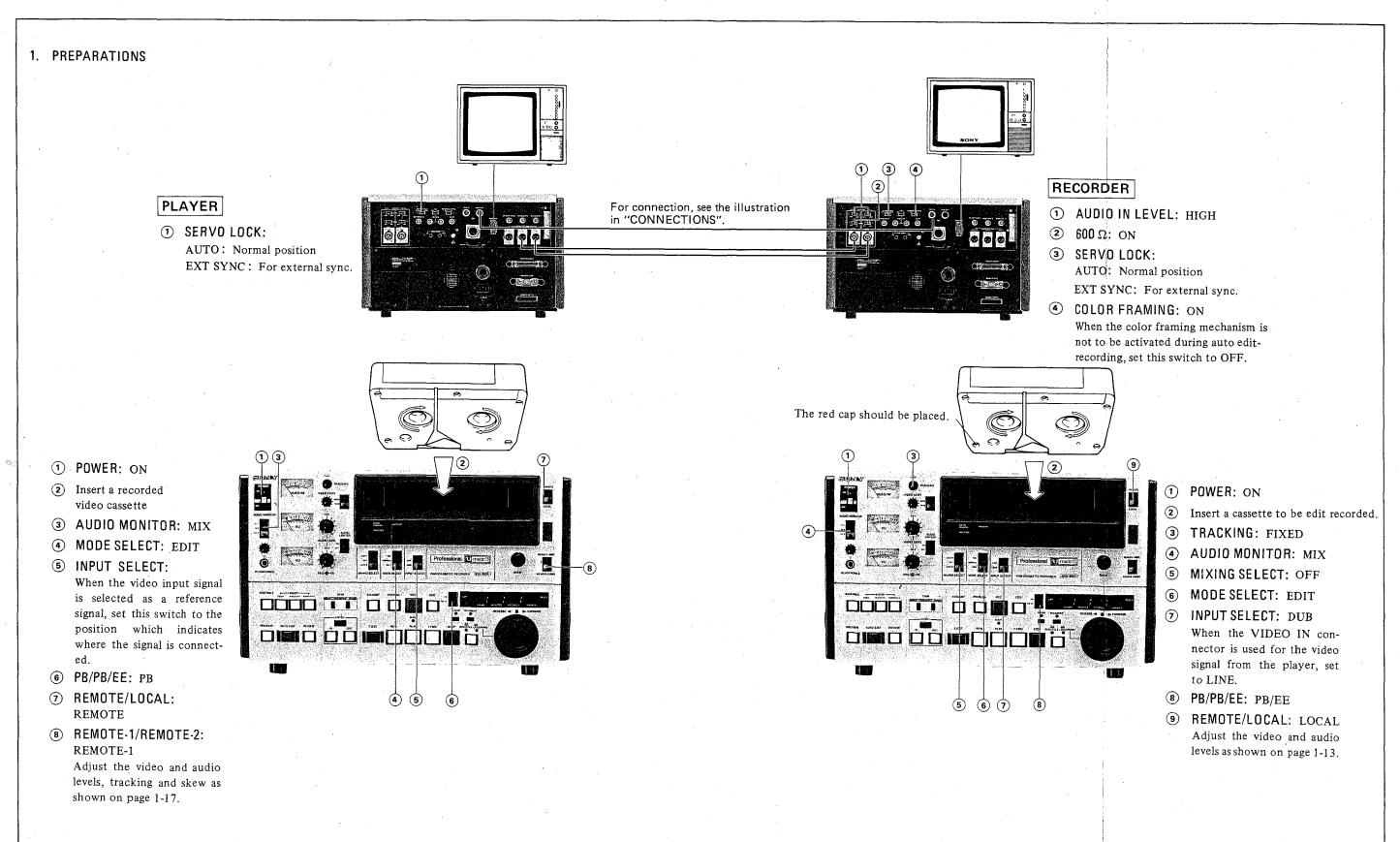
See page 1-15.

TIME CODE PLAYBACK

For reading out the time code, connect an EBU time code reader to the TIME CODE OUT connector. During playback, the TIME CODE lamp lights.

1-6. EDITING

1-6-1. Editing with Two BVU-800P Video Cassette Recorders



EDIT-OUT POINT FOR THE PLAYER

Locate the desired edit-out point in the same way as you located the edit-in point.	(Steps 1) through 5 on the previous page.)
Press the OUT and ENTRY buttons simultaneously. ENTRY OUT	The OUT lamp lights. The counter number at this point will be memorized as the edit-out point. If the same point is entered as the edit-in and the edit-out points or if the edit-out point is entered before the edit-in point, the edit-in point will be cleared. Enter the edit-in and edit-out points correctly.

• The edit-out point should be entered into either the player or the recorder.

EDIT-IN POINT FOR THE RECORDER

Press the RECORDER button.	The RECORDER lamp will light.
RECORDER	
2 Locate the point on the tape from which the scene is to be recorded in the same way as you searched for the edit-in point on the player.	The IN lamp blinks.
Press the IN and ENTRY buttons simultaneously.	The IN lamp lights. The counter number at this point will be memorized as the edit-in point.
	The first edit-in point should be at least 10 seconds after the beginning of the tape (or at least 5 seconds after the beginning of the tape when the preroll time switch is set to OFF.)

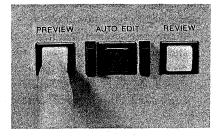
EDIT-OUT POINT FOR THE RECORDER

If the edit-out point is to be entered into the recorder, proceed as follows:

- 1) Locate the point where recording is to end in the same way as you searched for the edit-in point on the player.
- Press the OUT and ENTRY buttons simultaneously.
 The counter number at this point will be memorized as the edit-out point.

4. TO REHEARSE EDITING: THE PREVIEW MODE

Once the edit-in and edit-out points have been set, you can rehearse the scene by pressing the PREVIEW button.



- After the edit-in and edit-out points have been set, press the PREVIEW button.
 The PREVIEW lamp will light.
- Watch the recorder's monitor.

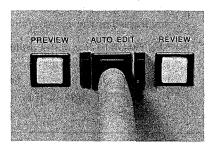
 Check that the edit-in and edit-out points are correct and that the quality of the picture to be recorded is satisfactory.
- 3 If necessary, re-enter the edit-in and edit-out points and rehearse the scene again by pressing the PREVIEW button.

To stop the tape during previewing, press the STOP button. If you want to start auto edit recording during previewing, press the AUTO EDIT button.

5. TO BEGIN EDIT RECORDING

Press the AUTO EDIT button.

The recording will automatically proceed.



You can start automatic edit-recording during previewing or skipping previewing.

When the edit recording is finished

When the recording of one scene (from the edit-in to the edit-out point) is finished, search for and enter the edit-in and edit-out points for the next scene, as described on the previous pages. You can also make the edit-out point of one scene as the next edit-in point for the recorder. For details, see page 1-33.

To monitor the edit recording

You can monitor the recording from 10 seconds (or 5 seconds) prior to the edit-in point to 2 seconds after the edit-out point on a video monitor connected to the recorder.

In the insert edit mode, if the tape on the recorder is missing some CTL signals or has a part the servo is unlocked, the playback picture of the tape on the recorder will appear on the monitor and the edit recording is not made during that portion.

To stop the edit recording

To stop recording before the edit-out point, press the OUT and ENTRY buttons simultaneously.

Tape protection

If the unit stays in the search still mode for more than 8 minutes, the tape will move in the 1/30 normal speed in forward direction to protect the tape and the video heads, keeping the precise edit-in point.

To change the preroll time

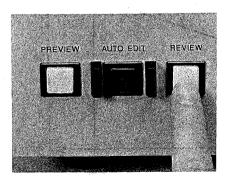
The preroll time can be changed, if necessary, to 5 seconds. The preroll time set on the recorder will be selected for both the player and recorder. For details see section 2. If the color framing mechanism is to be activated, the preroll time should be set to 10 seconds.

To adjust the edit accuracy

The edit accuracy is preset within ± 1 frame at the factory. If any adjustment is necessary, see section 2 and the following sections.

6. TO CHECK THE RECORDING: THE REVIEW MODE

When a scene has been recorded from the edit-in point to the edit-out point, you can check the result by pressing the REVIEW button.



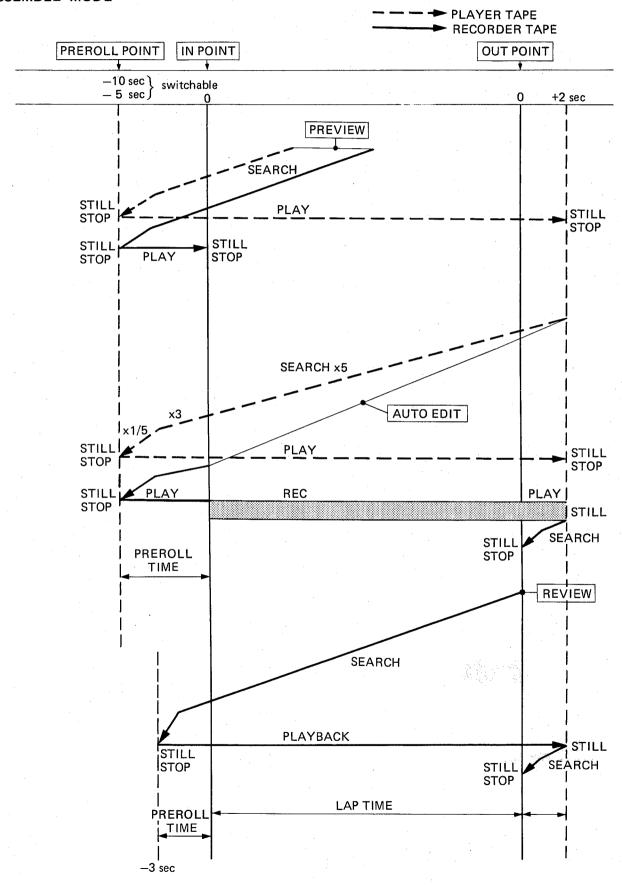
- 1 Press the REVIEW button after the recording has been made.
 - The REVIEW lamp will light.

The tape on the recorder only will move.

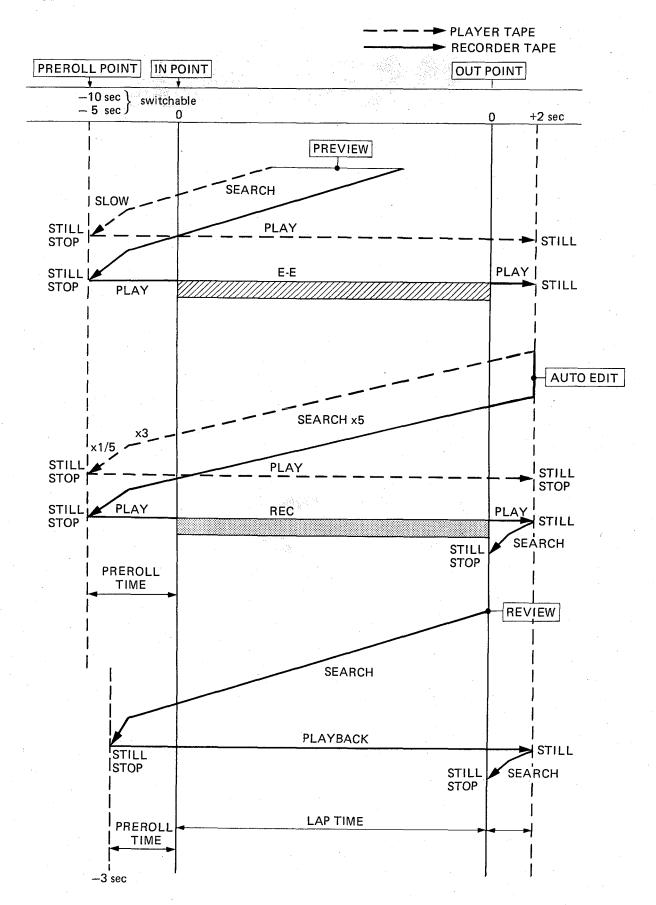
2 Watch the recorder's monitor to check the quality of the recording.

To stop the tape during reviewing, press the STOP button.

TAPE MOTION
ASSEMBLE MODE



INSERT MODE



TIME COUNTER (TAPE TIMER)



The time counter counts the CTL signals on the tape and the displayed figures indicate how much the tape has advanced at normal speed in hours, minutes, seconds and frames. The number changes as the tape moves.

• Counter will not count the time since there is no CTL signal. Therefore, the count display using a non-recorded tape is erroneous.

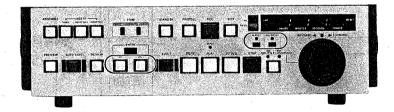
To set the time counter to "0:00:00:00"

Press the RESET button.

- When the tape runs in reverse from "0:00:00:00", a minus sign "-" will be displayed to the left of the figures.
- You will find that indexing the contents of your tapes by the figures on the time counter will make searching for editing points much easier.

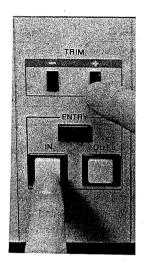
To check the edit-in and edit-out points by the time counter

Press the IN or OUT button for the player (Press the PLAYER button.) or for the recorder (Press the RECORDER button.) and hold it down.



While the button is pressed, the figures of the edit-in or the edit-out point of the player or of the recorder will be displayed.

The TRIM mode: fine adjustment of the editing points using the time counter



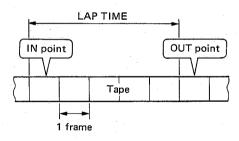
- 1 Press the IN or OUT button and hold it down through step 2.
 - The frame number of the edit-in or edit-out point will be displayed.
- Press and release the TRIM + button to advance the editing point one frame or press and release the TRIM button to set the point back one frame.

The frame number displayed will change accordingly.

Repeat pressing and releasing the + or - button until you achieve the desired frame number.

You may also change the edit point by entering another point.

When the lap button is pressed

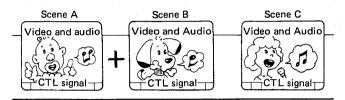


The lap time will be indicated by the time counter.

Editing points entered	The figures displayed indicate			
The edit-in and edit-out points have been entered.	The duration of the edit-in and edit-out points.			
Only the edit-in point has been entered.	The duration of the edit-in point and the point where the button is pressed.			
Only the edit-out point has been entered.	The duration of the previously edited scene.			
The edit-in and edit-out points have not been entered.	The duration of the previously edited scene.			

ASSEMBLY EDITING

In the assembly edit mode, all the signals — video, audio channel 1 and channel 2 and CTL signals — are recorded on the tape simultaneously. First record the video, audio and CTL signals of scene A and then record the video, audio and CTL signals of scene B, scene C, scene D and so on.

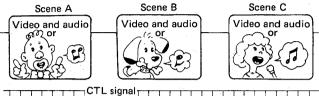


The assembly edit mode is used on a non-recorded tape where the video and audios are recorded simultaneously. The recordings are made back to back.

If the new material is edited on a previously recorded tape in the assembly mode, the fully erased portion will be produced on the tape after the edit-out point and the picture will be unstable at that point. To add a new material on a previously recorded tape, edit in the insert edit mode.

INSERT EDITING

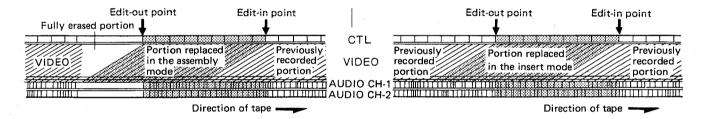
In the insert edit mode, the CTL signal should have already been recorded. New video and/or audio signals are added keyed to this CTL signal.



The insert edit mode is the mode to use when you want-

- to perform accurates edits on a pre-recorded tape.
- to add music and/or narration to a tape on which the video signal has been already recorded.
- to add video signal to a tape on which an audio signal has been already recorded.
- to replace the video and/or audio signals of a tape which has been edited in the assembly mode.

In the insert edit mode, a new scene can be inserted into a previously recorded tape. The picture will be stable at the edit-out point.



TO RECORD ON A NEW TAPE IN THE ASSEMBLY MODE

It is not necessary to record the CTL signal in advance, but if the assembly edit is to be made from the beginning to the new tape or after a blank on the tape, a CTL signal has to be recorded for at least 10 seconds 5 seconds, if the preroll time switch is at the OFF position) prior to the first edit-in point. Instead of recording a CTL signal, you may simply duplicate the tape in the record mode.

TO RECORD ON A NEW TAPE IN THE INSERT MODE

The CTL signal should be recorded continuously in the portion to be recorded and for at least 10 seconds (5 seconds, if the preroll time switch is at the OFF position) prior to and after that portion.

To record the CTL signal:

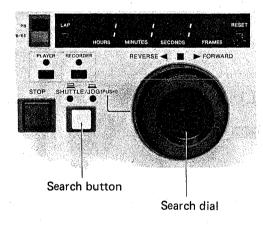
- Connect a video camera and continuously record its output signal.
- Connect a standard video signal generator and continuously record its output signal.

BLINK OF THE LAMPS

Operate the buttons above which the lamps are blinking, and the editing can be completed. The blinking and lighting of lamps are as follows.

- The ASSEMBLE and INSERT (VIDEO, AUDIO CH1, AUDIO CH2) lamps blink indicating that the editing mode is to be determined by pressing the appropriate button.
 - One or more lamps light indicating that the editing mode has been determined.
- The IN and/or OUT lamp(s) for the player and recorder blink indicating that the editing point(s) must be entered.
 - The IN and OUT lamps light when the edit-in and edit-out points have been entered but the editing has not been performed.
- The PREVIEW and AUTO EDIT lamps blink indicating that you can proceed either the preview or auto edit operation:
 - The PREVIEW or AUTO EDIT lamp lights to indicate that the recorder is in one of these modes.

HOW TO USE THE SEARCH BUTTON



- Use 1: to enter the unit directly into the shuttle mode at the speed set on the Search dial.
- Set the Search dial to the desired position to the position for 5 times normal forward speed, for example, in the shuttle mode.
- Press the PLAY button.
 The recorder will enter the playback mode.
- 3 Press the Search button.
 The machine will enter directly into the shuttle mode at 5 times normal forward speed.

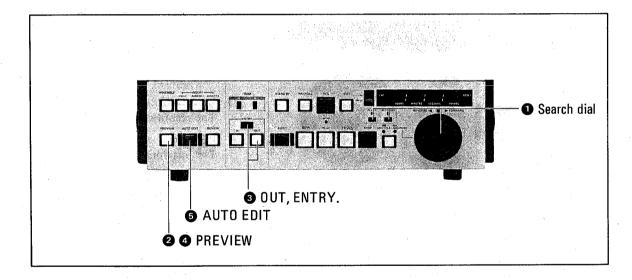
Use 2: to prevent accidental entry into the search mode

While operating this unit, if the Search dial is touched, the machine will enter the search mode. To prevent this, set the switch S4 on the SY-37 board to OFF. Now the Search dial will not operate until the Search button is pressed. For details, see section 2.

QUICK EDITING

You can save time by entering the edit-in and edit-out points in the preview mode.

- Locate the desired edit-in points for the player and the recorder by using the Search dial, Obtain a still picture.
- Press the PREVIEW button.
 The points obtained in the step will be memorized as the edit-in points for the player and recorder. The preview will start.
 The IN lamps will light.
- Watch the recorder's monitor and at the point where the scene is to end, press the OUT and ENTRY buttons simultaneously on the player or the recorder. The counter number will be memorized as the edit-out point. The tape will run for 2 more seconds as a post roll and return to the preroll point.
 - You may also use the Search dial to locate the desired point where the scene should end.
- 4 If necessary, preview the tape again.
- 6 Press the AUTO EDIT button.
 The edit recording will be made.



To edit even more quickly

You can edit by skipping the entry procedures.

- Locate the edit-in points on the player and the recorder using the Search dial. Obtain a still picture.
- Press the AUTO EDIT button.
 Recording will be made from that point which will be the edit-in points on the player and recorder.
- Watch the recorder's monitor and at the point where the scene is to end, press the OUT and ENTRY buttons simultaneously on the recorder or the player.

 The recording will stop at this point, which will be the edit-out point.

CONTINUOUS EDITING: THE BUTT EDIT

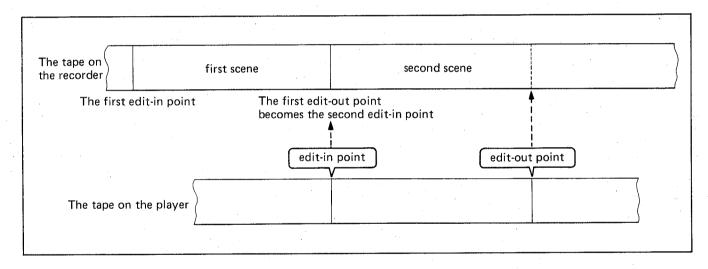
When you have finished recording from edit-in point to edit-out point, the recorder returns to the edit-out point and stops. You can make this edit-out point as the next edit-in point for the recorder.

This technique is called "Butt edit".

- 1 Locate the desired positions and enter the next edit-in and edit-out points for the player.
- Press the AUTO EDIT button. The recording will be performed.

Or you may proceed as follows:

- 1 Locate the desired position and enter the next edit-in point for the player.
- 2 Press the AUTO EDIT button.
 The recording will start.
- Watch the recorder's monitor and at the point where the scene is to end, press the OUT and ENTRY buttons simultaneously on the recorder or player. The recording will stop at this point, which will be the edit-out point.



THE SPLIT EDIT: TO SET DIFFERENT EDIT IN OR EDIT OUT POINT FOR VIDEO AND AUDIO

In the insert edit mode, you can stop the edit-recording of the video and audio channel 1 and audio channel 2 separately.

- Select the desired input signal with any or all of the INSERT buttons.
- 2 Start automatic edit-recording.
- 3 At the point where the edit-recording of the video or audio is to stop, press the appropriate INSERT button(s).

The corresponding light(s) will turn off.

At the point where the edit-recording of the video or audio is to begin, press the appropriate INSERT button(s).

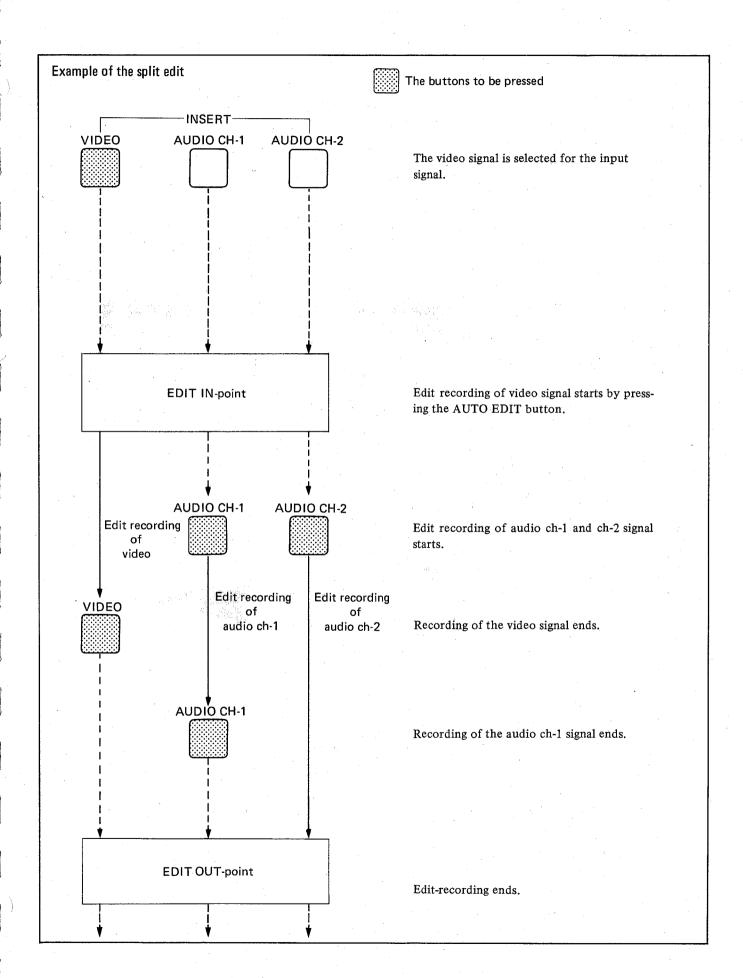
The corresponding light(s) will turn on.

simply pressing the INSERT buttons.

You may cut in or cut out the desired signal(s) at any point by pressing the INSERT button(s). Even if all the signals are cut out, the desired signal(s) can be cut in simply by pressing the INSERT button(s).

When the edit-out point has been entered, the recording will stop automatically. When the edit-out point has not been entered, press the ENTRY and OUT buttons to stop edit-recording.
Once you stop edit-recording, the video or audio signals cannot be cut in by

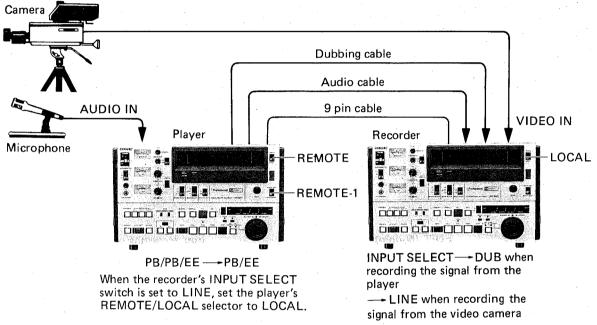
Or in the manual insert edit mode, you can split-edit in the same way. To stop editrecording, press the PLAY button.



EDITING THE SIGNAL FROM A VIDEO CAMERA: THE LIVE EDIT

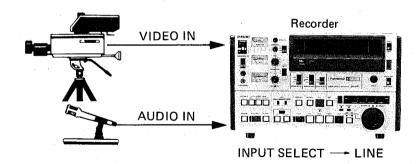
Connections

To record while editing using a signal from a video camera and signal from a player: Make connections as shown in the illustration.



While recording the signal from the camera, set the player in the stop mode.
 To record a signal from a video camera only:
 Connect a video camera to the VIDEO IN connector of the recorder. Set the INPUT

Connect a video camera to the VIDEO IN connector of the recorder. Set the INPUT SELECT switch of the recorder to LINE.



Operation

1 Select the editing mode: assembly or insert.

Assembly editing

- 2 Enter only the edit-in point of the recorder and start the recording of the camera signal with the AUTO EDIT button.
- 3 At the point where the camera recording is to end, press the ENTRY and OUT buttons simultaneously.

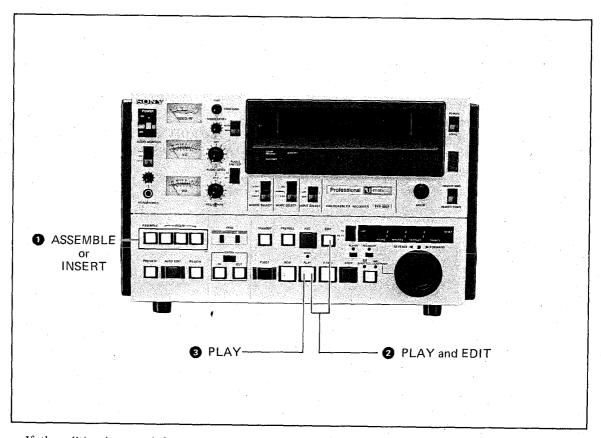
Insert editing

- Enter the edit-in and edit-out points of the recorder and start the recording of the camera signal with the AUTO EDIT button.
 You may also start recording with only the edit-in point entered and stop the recording by pressing the ENTRY and OUT buttons simultaneously.
- When assembly editing, the edit-out point cannot be entered on the recorder.

MANUAL EDITING

Operation

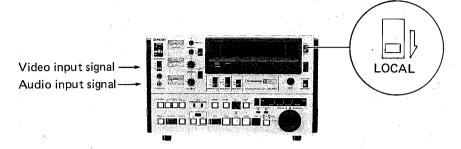
- 1 Select the editing mode: assembly or insert.
- 2 During the playback of both the recorder and player, at the point where the scene is to begin, simultaneously press the PLAY and EDIT buttons on the recorder.
 - Recording will begin at the point the buttons have been pressed.
- 3 At the point where the scene is to end, press the PLAY button on the recorder. The edit recording will stop and the playback will begin on the recorder.



• If the editing is started from the stop mode, the picture will be unstable at the edit-in point.

To obtain a perfectly stable playback picture, start the playback at least 10 seconds prior to the edit-in point.

1-6-2. Editing Using One BVU-800P Video Cassette Recorder

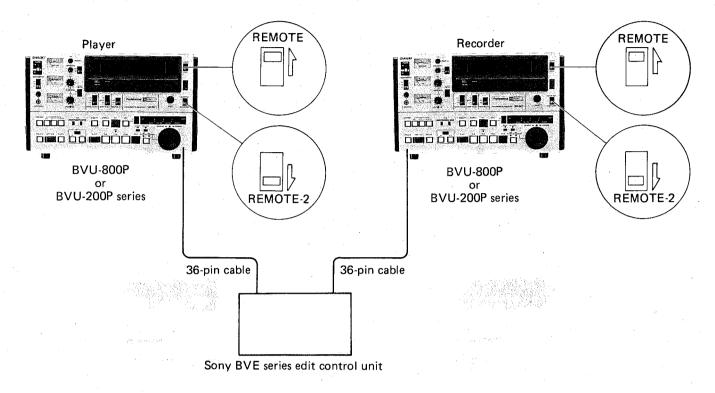


With this machine, if you connect a video and audio input signal, editing can be made as described on the previous pages.

Notes

- Set the REMOTE/LOCAL switch to LOCAL
- The entry of the edit-in and edit-out points, AUTO EDIT, PREVIEW, TRIM can be proceeded with this machine. Operate the input video and audio signal source separately.

1-6-3. Editing with a Conventional Control Unit

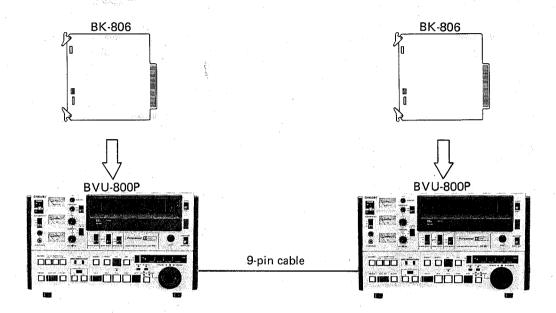


Use the function buttons on the control unit to remotely control the player and the recorder.

- For connection, see page 1-49.
- Set the REMOTE/LOCAL switch to REMOTE if it is equipped.
- Set the REMOTE-1/REMOTE-2 switch to REMOTE-2
- To remove the cassette in the machine, set the REMOTE/LOCAL switch to LOCAL and then press the EJECT button.
 - To operate the machine, with the control unit, return the switch to the REMOTE position.
- When the BVE-500 series Search dial is set to $\times 2$, the tape of the BVU-800P runs at 5 times normal speed and when set to $\times 1/20$, at 1/30 normal speed.
- When changing the mode of the BVU-800P from the search mode using a button on the BVE-500 series, be sure to keep the button pressed until the machine is set in your desired mode.
- When the buttons on the BVE-500 series are pressed, the appropriate lamps on the BVU-800P may not light. The lamps on the BVE-500 series indicate the correct operating mode of the player and recorder.
- When the BVE-500 series control unit is connected, the preroll time of the VTRs is set with the preroll time switch in the BVE-500 unit to 3 or 5 seconds.
- When the BVU-800P is used as a recorder when the BVE-500 series unit is connected, set the COLOR FRAMING switch on the recorder to OFF.

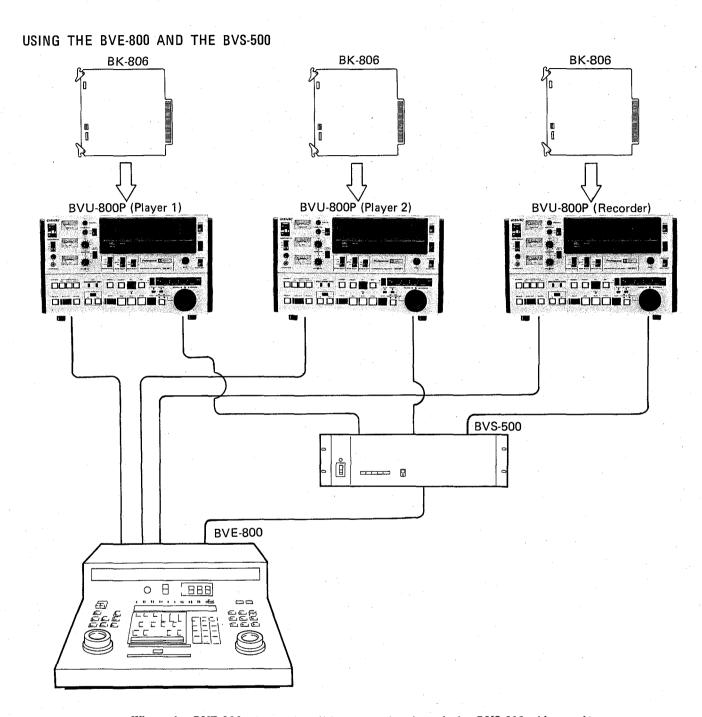
1-6-4. Time Code Editing

USING TWO BVU-800P VIDEO CASSETTE RECORDERS



The recording and playback of time code and the time code editing will be possible when the BK-806 time code generator/reader is inserted into the BVU-800P instead of the TC-13 circuit board.

The input and output connections of the time code is not required for editing. For details, refer to the instruction manual furnished with the BK-806.



When the BVE-800 automatic editing control unit and the BVS-500 video and audio switcher are used together, the following operation will be possible.

- a) A/B roll editing (Three VTRs are controlled)
- b) Automatic split editing
- c) Auto-editing using the multievent memory
- d) Auto-search
- e) Tape punching of edit lists with the TTY
- f) Program length calculation
- g) Cue tone recording and playback

For details, refer to the instruction manual furnished with the BVE-800 and BVS-500.

1-7. TAPE PROTECTION

In order to prevent any damage to the tape, the machine automatically goes into reset mode, when something wrong happens during operation.

For example;

- Fast forward/rewind/forward/reverse/stop/still mode:

When irregular reel rotation or tape tension is detected, system control forces machine to STOP or EJECT, then after 3 seconds, if irregular reel rotation or tape tension is still detected, reel motor power will turn off and mechanical brake is applied simultaneously.

- During threading/unthreading:

When irregular reel rotation or tape tension is detected, system control forces machine to STOP or EJECT.

- Irregular voltage, Sensor LED damage:

When irregular voltage at B + power line or sensor LED damage (no light) is detected, system control forces machine to STOP or EJECT, then mechanical brake is applied.

1-8. CLEANING THE HEAD

A KC-1C cleaning cassette (optional) is used to clean the video and audio heads. The tape is threaded into the unit in the same way as the video cassette.

- 1) Insert the cleaning cassette and press the PLAY button at once.
- 2) Run the tape for about 10 seconds.
- 3) Eject the cassette at once.
- Because the head rotates even in the stop mode, leaving the cassette in the machine cause the head worn out.

1-9. CHECK ROUTINES

To check that all functions of the BVU-800P are operating properly, execute the following routines.

To check playback functions

First, connect a video and audio monitor and prepare a video cassette tape on which video signals and audio CH-1 and CH-2 signals are recorded.

With switches set to

POWER

: ON

REMOTE/LOCAL : LOCAL

PB/PB/EE

:PB

AUDIO MONITOR: MIX

Action

Check that

The playback picture of high speed appears and the video and audio are not muted.

A still picture appears.

The playback picture appears. Audio CH-1 and CH-2 are heard.

The search lamp lights.

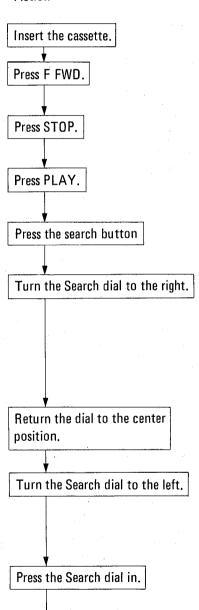
The playback speed changes from low to high. When the dial is turned to the position at which a click is felt, the machine enters into the fast forward mode (x10). (When the machine enters into the fast forward mode, the pinch roller is released and the picture is stopped or distorted for a moment.)

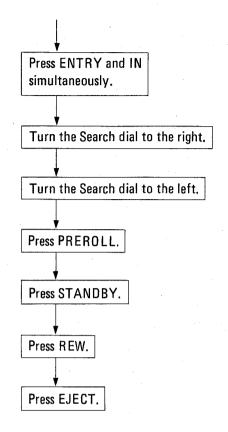
The SHUTTLE lamp lights.

The still picture appears.

The reverse playback picture appears. The speed changes from low to high. When the dial is turned to the position at which a click is felt, the machine enters into the rewind mode (x10).

The still picture appears. The JOG lamp lights.





PB/PB/EE

:PB/EE

IN lamp lights. Note the counter number of the point (edit-in).

The forward playback picture in the jog mode appears.

The reverse playback picture in the jog mode appears.

The tape runs to a point 10 seconds prior to the edit-in point and stops. A still picture appears.

STANDBY lamp goes off.

The tape rewinds. The E-to-E mode picture appears. At the beginning of the tape, the tape stops automatically.

The cassette is ejected.

To check recording functions

First,

- Prepare a video cassette tape on which recording can be made.
- Connect signals to the VIDEO IN, AUDIO IN CH-1 and CH-2 connectors.
- Connect a video and audio monitor.

With switches set to

POWER

:ON

REMOTE/LOCAL : LOCAL **INPUT SELECT**

: LINE

PB/PB/EE

:PB

AUDIO MONITOR: MIX

Action Insert the cassette. Press REC and PLAY simultaneously. Press REW. Press PLAY. Press REC and hold it down during playback. Press INSERTs (VIDEO, AUDIO CH-1 and CH-2). Press PLAY and EDIT simultaneously. Press PLAY. Press STOP. Press EDIT. Press EDIT. Press REW. Press PLAY. Press F FWD.

Check that

The recording begins.

The tape rewinds.

Rewind the tape to the beginning of recording and stop the tape.

Playback of the recorded scene appears. The audio CH-1 and CH-2 are heard.

E-to-E mode picture appears while the REC is pressed.

The VIDEO, AUDIO CH-1 and AUDIO CH-2 lamps light.

The manual edit recording will begin.

The edit recording will stop, but the tape will continue to run in the playback mode.

Still picture of the tape appears.

The E-to-E mode picture and sound selected by the INSERT buttons appear.

The E-to-E mode picture and sound disappear and the still picture of the tape appears.

The tape rewinds. Rewind the tape to the beginning of edit-recording and stop the tape.

Playback of the edit-recorded scene appears. The audio CH-1 and CH-2 is heard.

The tape advances rapidly and stops at the end of the tape. Then the tape rewinds automatically and stops at the beginning.

The cassette is ejected.

PB/PB/EE

: PB/EE

Press EJECT.

To check editing functions

With switches set to

First,

• Prepare a tape on which video, audio CH-1 and audio CH-2 are recorded.

Action

- Connect signals to the VIDEO IN and AUDIO IN connectors.
- Connect a video and audio monitor.

POWER : ON Insert the cassette. REMOTE/LOCAL : LOCAL AUDIO MONITOR: MIX Playback picture appears. Press PLAY. The still picture appears. Press Search button, (Search dial at ■ position) Note the counter number of the Press ENTRY and IN point (edit-in). simultaneously. Locate a point for the editout point with Search dial. Note the counter number of the Press ENTRY and OUT point (edit-out). simultaneously. Press INSERTs (VIDEO, AUDIO CH-1 and AUDIO CH-2). Previewing proceeds. Press PREVIEW. The counter number of the edit-in Press IN. point is displayed.

Check that

The counter number decreases by ten

The counter number of the edit-out

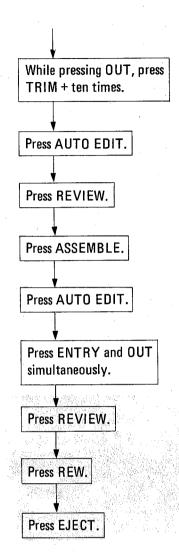
frames.

point is displayed.

While pressing IN, press

TRIM - ten times.

Press OUT.



The counter number increases by ten frames.

Auto edit recording proceeds.

The reviewing of the edit recorded scene proceeds.

The ASSEMBLE button lights.

The point where the AUTO EDIT has been pressed is entered as the edit-in point and auto edit recording begins.

The point is entered as the edit-out point and auto edit recording stops.

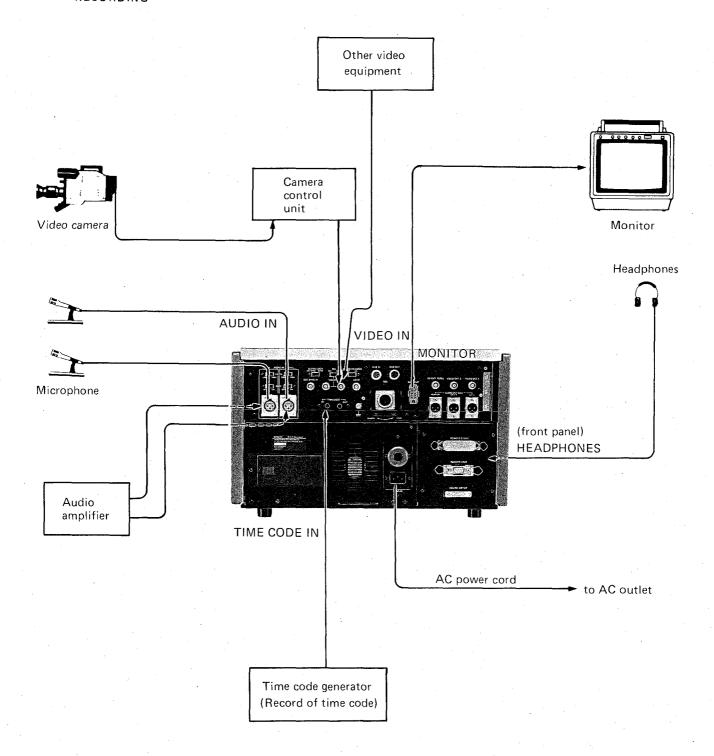
The reviewing of the edit recorded scene is proceeded.

The tape stops at the beginning.

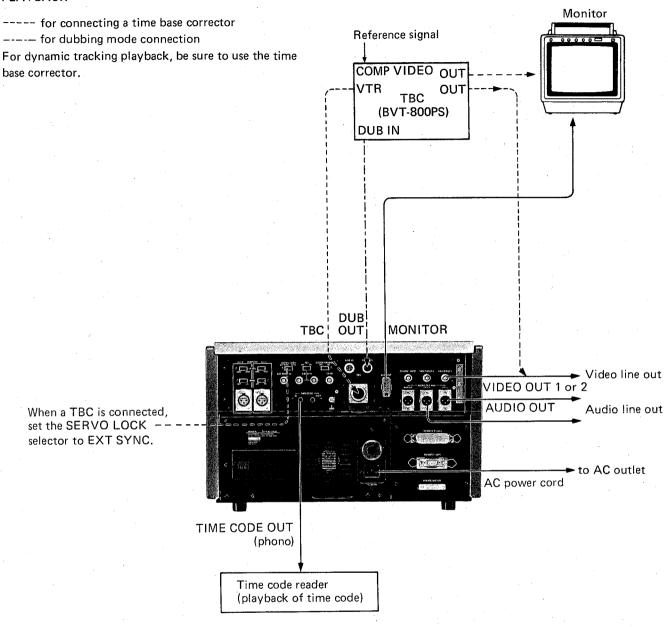
The cassette is ejected.

1-10. CONNECTIONS

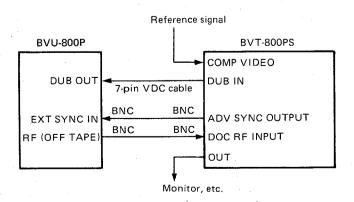
RECORDING



PLAYBACK

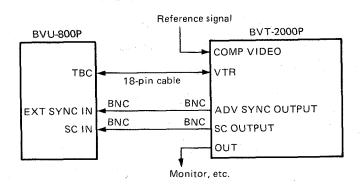


The BVT-800PS can be connected without using an 18-pin cable as follows.

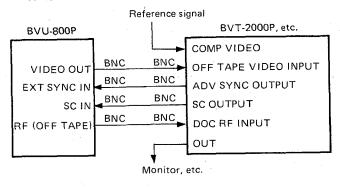


When a time base corrector other than BVT-800PS is used, connect it as follows.

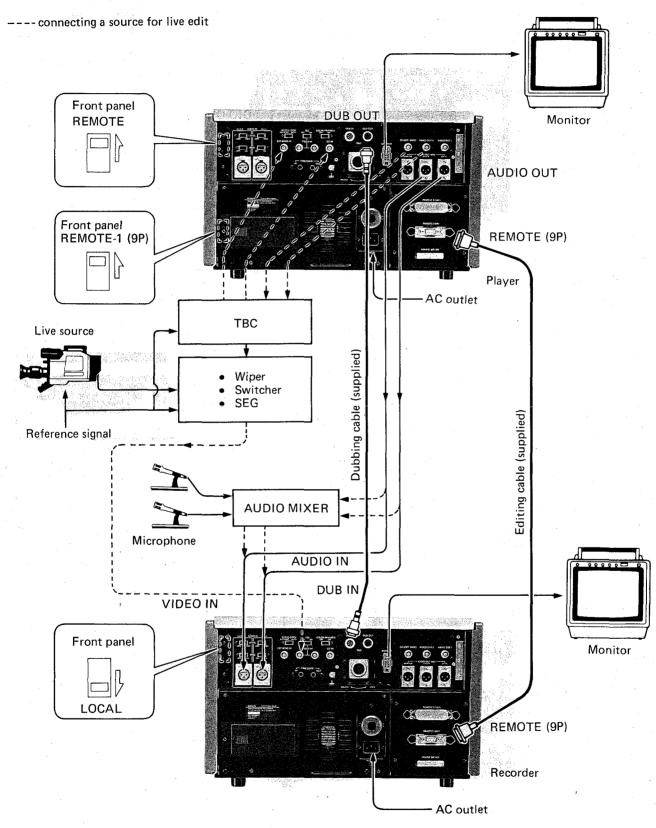
• To connect a BVT-2000P using an 18-pin cable



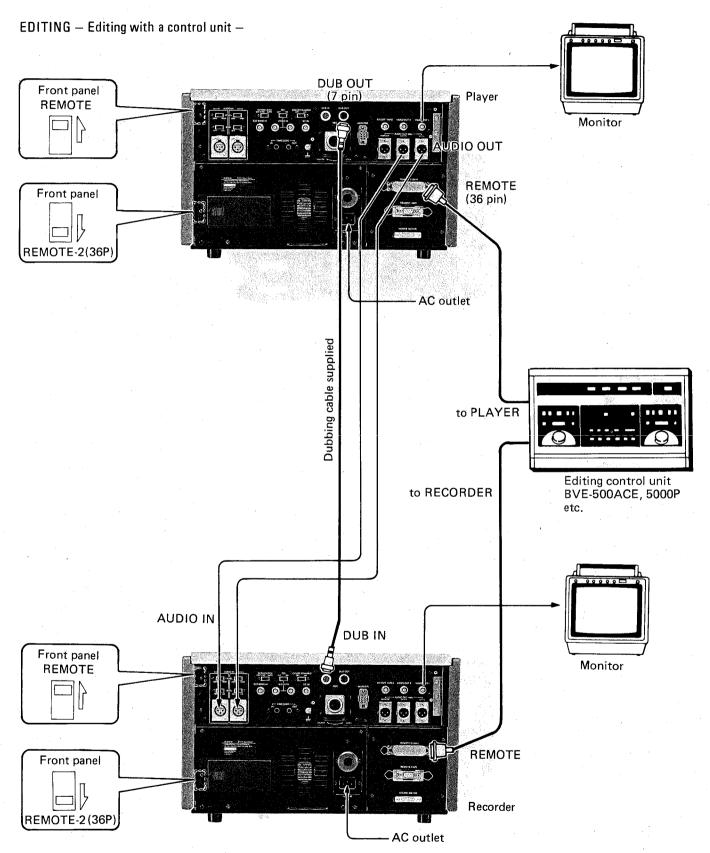
To connect a time base corrector without using an 18-pin cable



EDITING - Editing with two BVU-800Ps -



 Do not make simultaneous (parallel) connections with the DUB IN connector on the player and DUB OUT connector on the recorder



- Do not make simultaneous (parallel) connections with the DUB IN connector on the player and the DUB OUT connector on the recorder.
- For the live source connection, see the previous pages.
- The video cassette recorder with 36 pin connector can be connected other than the BVU-800P, but the function is limited according to the function of the machine.

1-11. SPECIFICATIONS

MECHANICAL Weight 37 kg (81 lb 9 oz) **Dimensions** 454 x 283 x 550 mm $(17^7/8 \times 11^1/4 \times 21^3/4 \text{ inches})$ (w/h/d)Operating position Horizontal Tape transport mechanism U-matic system (3/4-inch KCA, KCS cassettes) Tape speed 9.53 cm/s Wow/flutter ±0.25% (DIN) Record/playback time 60 min. maximum with KCA-60 video cassette Fast forward time Less than 4 min, with KCA-60 video cassette Rewind time Less than 2.5 min with KCA-60 video cassette SHUTTLE: Search speed Still, 1/30, 1/10, 1/5, 1/2, 1, 2, 5 and 10 times normal in forward and reverse direction Still to 1 in forward and reverse direction Connectors AC IN 3-pin AC connector VIDEO IN x2 **BNC** connectors VIDEO OUT x2 BNC connectors AUDIO IN CH-1/L, CH-2/R XLR female connectors **AUDIO** AUDIO OUT CH-1/L, CH-2/R XLR male connectors AUDIO OUT MONITOR XLR male connectors TIME CODE IN RCA phono jack TIME CODE OUT RCA phono jack

DUB IN 7-pin male connector **DUB OUT** 7-pin female connector SC IN BNC connector **EXT SYNC IN** BNC connector RF (OFF TAPE) BNC connector TBC CCY connector MONITOR OUT 8-pin connector REMOTE (36-p) 36-pin connector REMTOE (9-p) RS-422 9-pin connector JM-60 headphones binaural jack **HEADPHONES** +5°C to +40°C Operating temperature

-20°C to +60°C

Storage temperature

ELECTRICAL Power requirements AC 100/120/220/240 V ±10% (Selectable), 48 to 64 Hz Power consumption ASSEMBLE and INSERT (VIDEO, **Editing functions** AUDIO CH-1, AUDIO CH-2), AUTO EDIT, MANUAL EDIT PREVIEW, REVIEW, PREROLL, TRIM VIDEO Video recording system Luminance: FM SC low-range conversion Chroma: PAL composite video, sync negative Input 1.0 Vp-p $^{+1.0}_{-0.5}$ V, 75 Ω , unbalanced Output PAL composite video, sync negative 1.0 Vp-p \pm 0.2 V, 75 Ω , unbalanced Luminance signal: 0.5 Vp-p **Dubbing input** Sync negative, Impedance: $75\Omega \pm 10\%$ Chroma signal: 0.5 Vp-p Impedance: $75\Omega \pm 10\%$ **Dubbing output** Luminance signal: 0.5 Vp-p Sync negative Impedance: $75\Omega \pm 10\%$ Chroma signal: 0.5 Vp-p Impedance: $75\Omega \pm 10\%$ Horizontal resolution 370 lines (monochrome mode) 260 lines (color mode)

Signal to noise ratio

More than 46 dB (monochrome mode)

More than 46 dB (color mode)

Input (MIC) —60 dB, 3 k-ohms, balanced (matches 600-ohm microphones)

(LINE) +4 dB, 10 k-ohms/600 ohms, balanced

Output (LINE) +4 dB, low impedance, balanced (600-ohm load permissible)

(HEADPHONES) -46 to -26 dB, 8 ohms load, binaural

(MONITOR) +4 dB, 600-ohm load, balanced

Distortion Less than 2.0% (1 kHz reference level)

Frequency response 50 Hz to 15 kHz

Signal to noise ratio 48 dB (at 3% distortion level)

TIME CODE input 0 dB ± 6 dB, 10 k-ohms, unbalanced (0 dB = 1.55 Vp-p pulse)

(0 dB = 1.55 Vp-p pulse)

TIME CODE output

0 dB ± 3 dB, low impedance, unbalanced (0 dB = 1.55 Vp-p pulse)

SC input

2 Vp-p ± 1V, 75 ohms, unbalanced

SYNC input

0.2 Vp-p to 5 Vp-p, negative,

75 ohms, unbalanced

(1 Vp-p ± 0.2 V with VIDEO input)

RF output (OFF TAPE)

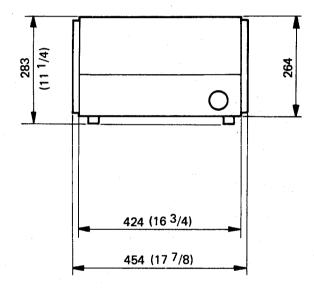
 $0.5 \text{ Vp-p} \pm 0.1 \text{ V}, 75 \text{ ohms},$

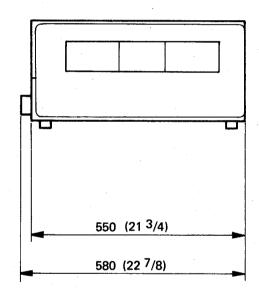
unbalanced

Accessories supplied

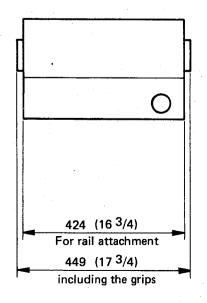
AC power cord	l
Dubbing cable VDC-5 (5 m)	l
Remote control cable (9 pin-9 pin) RCC-5G	1
Extension board EX-7	ı
Operation and maintenance manual	Ĺ

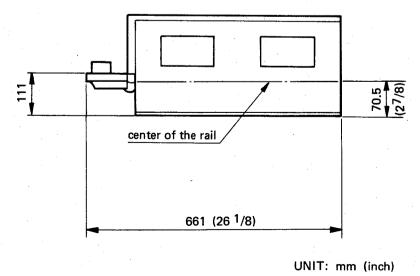
VIEW OF EXTERIOR





Design and specifications subject to change without notice.





TEIL 1 BETRIEB

1-1. BESONDERE MERKMALE

Schnelles Auffinden der Schnittpunkte

Ein Suchlauf, bei dem das Wiedergabebild erkennbar ist, erlaubt ein schnelles Auffinden der Schnittpunkte. Der Suchlauf ist auf 2 Arten durchführbar: Beim Shuttle-Betrieb ist die Wiedergabegeschwindigkeit von 1/30 bis zum 10 fachen Wert der Normalgeschwindigkeit in beiden Richtungen variierbar; im Jog-Betrieb bewegt sich das Bild analog der Drehung des Suchlauf-Knopfes. Auch beim Schnellvorlauf- und Rücklaufbetrieb bleibt das Band um die Kopftrommel geschlungen, und bei Verwendung eines Time-Base-Correctors erhält man ein erkennbares Bild.

Schnittbetrieb

Bei Anfügschnitten werden der Videokanal sowie die Tonkanäle 1 und 2 gleichzeitig geschnitten. Bei Einfügschnitten können Videokanal, Tonkanal 1 und Tonkanal 2 unabhängig voneinander geschnitten werden. Das Schnittmaterial kann vor und nach dem Aufnehmen betrachtet werden.

Bedienung an der Vorderseite

Alle Bedienungsfunktionen, einschließlich Einlegen und Herausnehmen der Cassette, können am vorne angebrachten Bedienungspult vorgenommen werden. Das Bedienungspult kann für individuelle Bedienbarkeit in 6 Stufen bis maximal 90° verdreht werden.

Fernbedienung

Werden für den Schnittbetrieb zwei BVU-800P Video-Cassettenrecorder verwendet, so kann die Wiedergabemaschine von den Bedienungselementen der Aufnahmemaschine aus fernbedient werden. Das Bedienungspult kann abgenommen werden.

Zeitkode-Aufnahme/Wiedergabe

Das Gerät besitzt eine getrennte Adreßspur, so daß der EBU-Zeitkode aufgezeichnet und wiedergegeben werden kann, wenn ein Zeitkode-Generator und ein Auswerter angeschlossen ist. Es braucht dazu keine Tonspur aufgegeben zu werden.

ϕ^2 -Servoregelkreis

Auch an einer Schnittstelle werden Bildstörungen (kurzzeitiges Kippen des Bildes) vermieden, da der BVU-800P eine H-Phasenkorrektur- und eine Bildfangeinrichtung besitzt. Die H-Phasenkorrektur arbeitet automatisch.

Antriebswellen-Servo

Der BVU-800P besitzt eine Antriebswellen-Servoschaltung, die von einem externen Signal gesteuert wird.

Halbbildgenauarbeitender Servo

Dieses System erkennt die geraden und ungeraden Halbbilder in einem Vollbild und sorgt für einen exakten Schnitt zwischen dem Ende eines geraden Halbbildes und dem Anfang des nächsten ungeraden Halbbildes.

Halbbildrichtige Farbträgerverkopplung

Der BVU-800P besitzt einen Schaltkreis für halbbildrichtige Farbträgerverkopplung, der alle vier Halbbilder erkennt und sie so ausrichtet, daß am Schnittpunkt keine Farbblitze entstehen.

Direktantrieb mit sechs Gleichstrommotoren

Der BVU-800P besitzt sechs getrennt angebrachte Motoren. Kopftrommel wird von einem bürstenlosen Gleichstrommotor direkt angetrieben. Zum Antrieb der Antriebswelle dient ebenfalls ein bürstenloser Gleichstrommotor, der für diesen Zweck neu entwickelt wurde. Da die Abwickelspule und die Aufwickelspule von getrennten Motoren angetrieben werden, kann der Bandzug von einem Servosystem genau geregelt werden. Dies ermöglicht einen schnellen Zugriff zu einer bestimmten Bandstelle.

Digitaler Zeitzähler

Der Zeitzähler zeigt bei Normalgeschwindigkeit die bereits verbrauchte Bandmenge in Stunden, Minuten, Sekunden und Einzelbildern an. Zu diesem Zweck werden die CTL-Signale gezählt. Es kann auch die Schnittzeit angezeigt werden.

Automatisches oder manuelles Video-Aufnahmesystem

Der Video-Aufnahmepegel kann entweder automatisch oder manuell eingestellt werden.

Tonsignal-System

Die beiden Tonsignal-Aufnahme- bzw. Wiedergabepegel können getrennt eingestellt werden. Falls erforderlich kann ein Begrenzer aktiviert werden, um auch bei plötzlich auftretenden starken Pegelspitzen des Eingangssignals eine verzerrungsfreie Aufnahme sicherzustellen. Die Signale von Tonkanal 1 und Tonkanal 2 können beim Aufnehmen auch gemischt werden.

Schnitt/Kopieranschlüsse

Beim Kopieren der Videosignale über die DUB IN- und DUB OUT-Anschlüsse kommt es auch nach etlichen Wiederholvorgängen nur zu einer äußerst geringen Qualitätseinbuße.

Anschluß eines Time-Base-Correctors

Der BVU-800P besitzt einen Eingang für ein externes Hilfsträgersignals (SC IN) und einen Eingang für ein externes Synchronisationssignal (EXT SYNC IN), so daß ein Time-Base-Corrector angeschlossen werden kann. Außerdem ist ein HF-Ausgang (RF OUT) vorgesehen, an den ein Dropout-Compensator (BVT-2000P etc.) angeschlossen werden kann.

Automatischer Bandrücklauf und automatischer Bandstop am Ende

Ist das Band bis zum Ende durchgelaufen, so wird es automatisch zum Anfang zurückgespult und dort automatisch gestoppt.

Kontrollampen

Diese Lampen sind gut erkennbar auf der Vorderseite angebracht und zeigen dem Operator die Funktion des farbträgerverkoppelten Halbbild-Servosystems, der Synchronisation, eine eventuelle Kondenswasserbildung im Geräteinneren, die Zeitkode-Aufnahme/Wiedergabe sowie den Betrieb des Antriebswellen- und Kopftrommel-Servosystems an.

Einsteckbare Platinen und Module

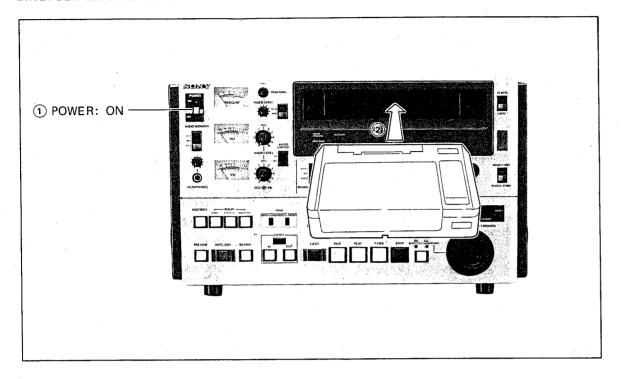
Bei der Entwicklung der einsteckbaren Platinen und Moduln wurde graßen Wert auf Service- und Wartungsfreundlichkeit gelegt. Sie sind leicht durch Abnehmen der oberen Geräteabdeckung zugänglich.

Einbaumöglichkeit in ein 19-Zoll Normgestell

Der BVU-800P kann in ein 19-Zoll EIA-Normgestell eingebaut werden.

1-2. EINLEGEN UND HERAUSNEHMEN EINER CASSETTE

EINLEGEN EINER CASSETTE

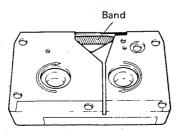


• Das Band fädelt sich automatisch ein, die Kopftrommel beginnt sich zu drehen, und auf dem Bildschirm erscheint ein Standbild.

HERAUSNEHMEN EINER CASSETTE

Drücken Sie die EJECT-Taste bei eingeschaltetem Netzschalter.

- Hinweise: Verwenden Sie in diesem Gerät nur Sony U-matic Videocassetten oder die entsprechenden Typen KCA-60 (60 Minuten) oder KCS-20 (20 Minuten).
 - Nehmen Sie nach der Verwendung die Cassette heraus, bevor Sie das Gerät abschalten.
 - Wurde der Netzschalter trotz eingelegter Cassette ausgeschaltet, so schalten Sie ihn wieder ein. Die EJECT-Lampe leuchtet dann kurzzeitig auf, und anschließend leuchten die STANDBY- und die STOP-Lampe. Drücken Sie zum Herausnehmen der Cassette die EJECT-Taste, sobald die STOP-Lampe aufleuchtet.
 - Wird ein zu weit aufgespultes Band eingefädelt, so sorgt ein Sensor automatisch für ein schnelles Rück-bzw. Vorspulen, um die Kopfspitze vor Beschädigungen durch das Vorspannband zu bewahren. Wird eine KCA-Cassette mit versehentlich herausgezogenem endseitigen Vorspannband eingelegt, so wird die Cassette automatisch wieder ausgeworfen. Drehen Sie in diesem Fall die Abwickelspule manuell, bis das endseitige Vorspannband ganz aufgewickelt ist, und legen Sie die Cassette dann wieder ein.

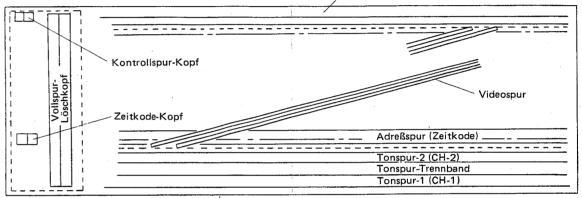


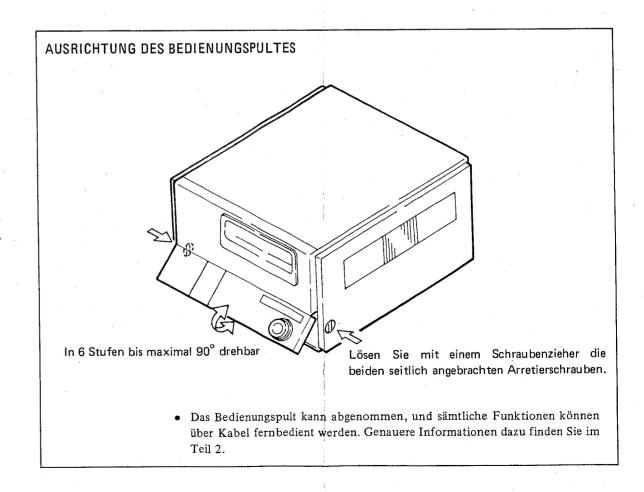
Schutz eines bespielten Bandes vor versehentlichem Löschen

Entfernen Sie die kleine rote Kappe an der Unterseite der Cassette; das Gerät kann dann nicht in die Aufnahmefunktion übergehen. Setzen Sie die Kappe wieder ein, wenn die Cassette wieder für Aufnahmen herangezogen werden soll. Lassen Sie die Kappe normalerweise eingesetzt.

• Die Abbildung unten zeigt das von diesem Gerät erzeugte Aufnahmespurmuster bei Verwendung eines Zeitkode-Generators.







(3) Tonpegel-Begrenzerschalter [AUDIO LIMITER]

Steht dieser Schalter auf ON, so arbeitet der Tonpegel-Begrenzerschaltkreis. Bei der Aufnahme reduziert dieser Schaltkreis plötzlich auftretende Pegelspitzen des Eingangssignals auf einen festen Pegel, so daß stets eine verzerrungsfreie Aufnahme hoher Qualität gewährleistet ist.

Wiedergabe-Tonpegel-Regler [AUDIO LEVEL PB] (innerer Regler)

Stellen Sie hier den Ausgangstonpegel von Tonsignal 1 und Tonsignal 2 ein. Stellen Sie die Regler bei Wiedergabe so ein, daß die VU-Meter (6) in den Spitzen bis 0 VU ausschlagen.

Wiedergabe-Tonpegel-Regler [AUDIO LEVEL PB] (äußerer Regler)

Stellen Sie hier den Eingangstonpegel von Tonsignal-1 und Tonsignal-2 ein. Befindet sich der Recorder im E-zu-E-Betrieb, so stellen Sie diese Regler so ein, daß die VU-Meter (16) in den Spitzen bis 0 VU ausschlagen.

(6) VU-Meter

Befindet sich der Recorder im Aufnahme oder E-zu-E-Betrieb, so zeigen die VU-Meter den Eingangstonpel an; befindet er sich im Wiedergabebetrieb, so zeigen die VU-Meter den Ausgangstonpegel an.

Topfhörerbuchse [HEADPHONES] und Kopfhörerlautstärke-Regler

Hier kann ein 8-Ohm Stereokopfhörer angeschlossen werden. Der Ton kann bei Aufnahme, beim Schnittvorgang und beim Wiedergabebetrieb mitgehört werden. Die Lautstärke des Mithörtons ist am Kopfhörerlautstärkeregler einstellbar.

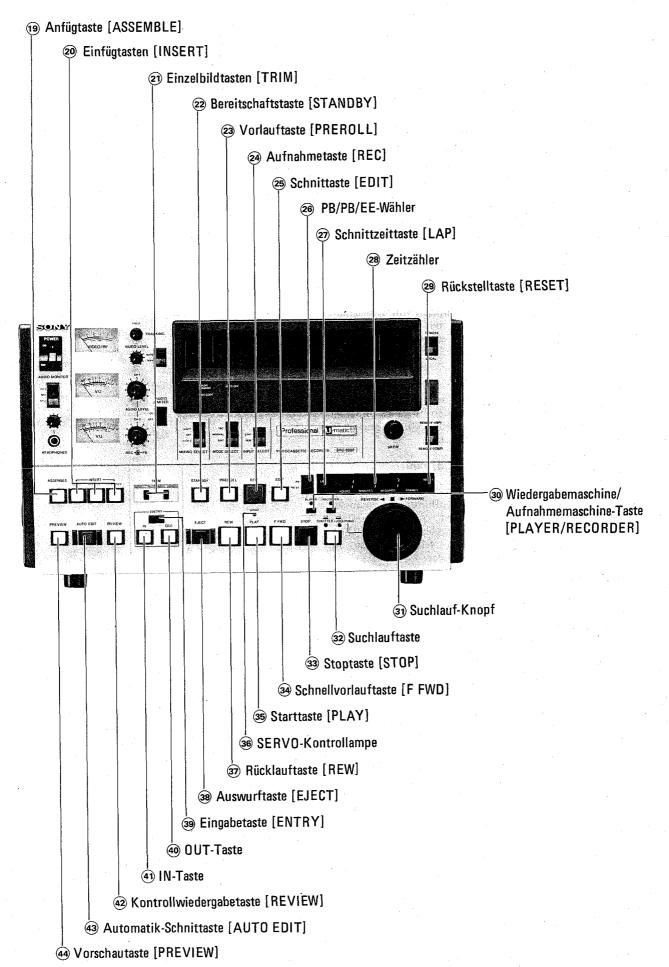
Tonsignal-Wähler [AUDIO MONITOR]

Hier kann das Tonausgangssignal der HEADPHONES-Buchse ① und der auf der Rückseite befindlichen MONITOR-Anschlüsse gewählt werden.

CH-1: Tonsignal-1

MIX: Signal 1 und 2 liegt an der HEADPHONES-Buchse bzw. das Mischsignal aus beiden Signalen liegt an den MONITOR- und AUDIO OUT MONITOR-Anschlüssen an.

CH-2: Tonsignal-2



(19) Anfügtaste [ASSEMBLE]

Drücken Sie diese Taste zum Anfügbetrieb. Durch nochmaliges Drücken wird der Anfügbetrieb wieder ausgeschaltet.

20 Einfügtasten [INSERT]

Wählen Sie an diesen Tasten das Eingangssignal für den Einfügbetrieb.

(21) Einzelbildtasten [TRIM]

Der gespeicherte Schnittanfangs- und Schnittendpunkt kann um jede beliebige Anzahl von Einzelbildern verändert werden. Drücken Sie dazu die IN- oder OUT-Taste zusammen mit der entsprechenden Einzelbildtaste.

22 Bereitschaftstaste [STANDBY]

Wird der Netzschalter eingeschaltet, so leuchtet die STANDBY-Lampe und zeigt damit an, daß sich die Konftrommel dreht und das Gerät betriebsbereit ist. Wird diese Taste während der Stopfunktion gedrückt, so bleibt die Kopftrommel stehen, und die Bandspannung verringert sich, um einer Beschädigung des Videokopfes vorzubeugen. Auf dem Bildschirm erscheint das E-zu-E-Bild. Drücken Sie die STANDBY-Taste erneut oder eine andere Betriebstaste (außer der STOP-Taste), um das Gerät wieder in den Stop-Betrieb oder einen anderen Betrieb umzuschalten.

23 Vorlauftaste [PREROLL]

Drücken Sie diese Taste, um das Band zu einem 10 Sekunden oder 5 Sekunden (je nach Stellung des Vorlaufzeit-Schalters) vor dem Schnittanfangspunkt liegenden Punkt laufen zu lassen.

Wurde kein Schnittanfangspunkt eingegeben, so wird der Punkt, an dem die Vorlauftaste gedrückt wird, als Schnittanfangspunkt eingegeben, und der Vorlauf beginnt an diesem Punkt.

24 Aufnahmetaste [REC]

Drücken Sie diese Taste gleichzeitig mit der PLAY-Taste, um das Gerät in den Aufnahmebetrieb zu schalten.

Wird diese Taste im Wiedergabe-, Suchlauf-, Schnellvorlauf- oder Rücklaufbetrieb gedrückt, so erscheint das E-zu-E-Bild- und das Tonsignal. Wird die Taste wieder ausgerastet, so befindet sich das Gerät in der gleichen Betriebsfunktion wie vor dem Drücken der Taste. Beim Stopbetrieb erscheint bei gedrückter und ausgerasteter Taste das E-zu-E-Bild- und Tonsignal. Drücken Sie die STOP-Taste, um das Gerät wieder in der vorhergehenden Betriebszustand überzuführen.

25 Schnittaste [EDIT]

Drücken Sie für manuellen Schnittbetrieb diese Taste gleichzeitig mit der PLAY-Taste.

Wird diese Taste im Wiedergabe-, Suchlauf-, Schnellvorlauf- oder Rücklaufbetrieb gedrückt, so erscheint das E-zu-E-Videosignal und das Tonsignal. Wird die Taste wieder ausgerastet, so befindet sich das Gerät in der gleichen Betriebsfunktion wie vor dem Drücken der Taste, Beim Stopbetrieb erscheint bei gedrückter und ausgerasteter Taste das E-zu-E-Bild- und Tonsignal. Drücken Sie die STOP-Taste, um das Gerät wieder in der vorhergehenden Betriebszustand überzuführen.

26 PB/PB/EE-Wähler

Stellen Sie hier das abzubildende Videosignal und das Tonsignal ein. Genauere Informationen dazu finden Sie in der Tabelle auf Seite 1-70.

Schnittzeittaste [LAP]

Wird diese Taste gedrückt, so erscheint die Schnittzeit auf dem Zeitzähler.

28 Zeitzähler

Der Zeitzähler zeigt bei Normalgeschwindigkeit die bereits durchgelaufene Bandmenge in Stunden, Minuten, Sekunden und Einzelbildern an.

29 Rückstelltaste [RESET]

Drücken Sie diese Taste, um die Anzeige des Zeitzählers auf "0:00:00:00" zu stellen. gespeicherten Schnittanfangs- und Schnittendpunkte werden beim Drücken dieser Taste gelöscht.

30 Wiedergabemaschine/Aufnahmemaschine-Taste [PLAYER/RECORDER]

Werden zum Schnittbetrieb zwei BVU-800P zusammengeschaltet, so kann die Wiedergabemaschine von der Aufnahmemaschine aus fernbedient werden. wenn die PLAYER-Taste der Aufnahmemaschine gedrückt wird.

RECORDER-Taste: Drücken Sie diese Taste, um die Funktionstasten der Aufnahmemaschine in gewohnter Weise benutzen zu können.

PLAYER-Taste:

Wird diese Taste gedrückt, so kann die Bereitschafts-, Auswurf-, Schnellvorlauf-, Wiedergabe-, Rücklauf-, Stop-, Shuttle-, Jog-, Vorlauf-, Eingabe-, IN/OUT-, Einzelbild- und Zeitzählerfunktion der Wiedergabemaschine von der Aufnahmemaschine aus fernbedient werden.

(31) Suchlauf-Knopf

Mit diesem Knopf können die gewünschten Schnittpunkte schnell aufgefunden werden.

Durch Drücken des Knopfes geht das Gerät in den Jog-Betrieb und durch nochmaliges Drücken geht es in den Shuttle-Betrieb.

Die entsprechende Lampe leuchtet auf.

SHUTTLE: Drehen Sie den Knopf nach rechts oder nach links. Die Bandgeschwindigkeit kann dadurch von 1/30, 1/10, 1/5, 1/2, 1, 2, 5 bis zur 10 fachen Normalgeschwindigkeit in beiden Richtungen verändert werden.

Drehen Sie den Knopf nach rechts oder nach links. Das Band bewegt sich dann entsprechend der Richtung und Geschwindigkeit der Knopfdrehung (von 0 bis Normalgeschwindigkeit). Wird der Knopf nicht gedreht, so erscheint ein Standbild.

• Achten Sie darauf, den Knopf beim Einschalten des Netzschalters vor dem Benutzen einmal kurz auf die Stellung = zu stellen,

32 Suchlauftaste

JOG:

Drücken Sie diese Taste, um das Gerät in die Suchlauffunktion zu schalten.

3 Stoptaste [STOP]

Drücken Sie diese Taste, um das Gerät in die Stopfunktion zu schalten. Der Spulenmotor hält dann an, die Andruckrolle fährt zurück, die Kopftrommel dreht sich, und das Band bleibt eingefädelt.

34 Schnellvorlauftaste [F FWD]

Drücken Sie diese Taste, um das Band schnell vorzuspulen.

35 Starttaste [PLAY]

Drücken Sie zur Wiedergabe des Bandes diese Taste. Drücken Sie zur Aufnahme diese Taste gleichzeitig mit der REC-Taste. Drücken Sie zum manuellen Schneiden während der Wiedergabe diese Taste gleichzeitig mit der EDIT-Taste.

Drücken Sie während der manuellen Aufnahme diese Taste zum Stoppen des Aufnahmevorgangs.

36 SERVO-Kontrollampe

Diese Kontrollampe leuchtet auf, sobald das Servosystem der Kopftrommel und der Antriebswelle stabil arbeitet.

37 Rucklauftaste [REW]

Drücken Sie diese Taste zum Rückspulen des Bandes.

Auswurftaste [EJECT]

Drücken Sie diese Taste, um das Band auszufädeln und die Cassette auszuwerfen. Die Zähleranzeige wird auf .0:00:00:00" zurückgestellt, wenn der Zeitzähler im CTL-Betrieb arbeitet.

• Achten Sie darauf, die Cassette jedesmal vor dem Ausschalten des Geräts herauszunehmen.

39 Eingabetaste [ENTRY]

Drücken Sie diese Taste zusammen mit der IN- oder OUT-Taste, um den Schnittanfangs- bzw. Schnittendpunkt einzugeben.

40 OUT-Taste

Wird diese Taste zusammen mit der ENTRY-Taste gedrückt, so wird der Schnittendpunkt eingegeben. Beim Drücken dieser Taste erscheint auf dem Zeitzähler die Einzelbildnummer des Schnittendes.

(41) IN-Taste

Wird diese Taste zusammen mit der ENTRY-Taste gedrückt, so wird der Schnittanfangspunkt eingegeben. Beim Drücken dieser Taste erscheint auf dem Zeitzähler die Einzelbildnummer des Schnittanfangs,

(42) Kontrollwiedergabetaste [REVIEW]

Drücken Sie zum Überprüfen des beim Schnittvorgang aufgezeichneten Bild- und Tonsignals diese Taste.

43 Automatik-Schnittaste [AUTO EDIT]

Drücken Sie diese Taste zum Starten des automatischen Schnittvorganges.

Vorschautaste [PREVIEW]

Drücken Sie diese Taste zur Probevorschau des Schnittvorgangs. Vor der eigentlichen Schnittaufnahme kann die Aufnahmeabfolge dann am Monitor überprüft werden.

(CH-1/CH-2) (XLR-Stecker)

An diesen Ausgängen liegen die Tonsignale an, deren Pegel an dem an der Vorderseite angebrachten AUDIO LEVEL-Regler eingestellt werden kann.

Monitor-Tonsignalausgang [AUDIO OUT MONITOR] (XLR-Stecker)

Schließen Sie hier das Tonmithör-System an. Das anliegende Ausgangssignal kann an dem an der Vorderseite angebrachten AUDIO MONITOR-Wähler und an dem MIXING SELECT-Wähler eingestellt werden.

Fernbedienungsanschluß-2 [REMOTE-2] (36-polig)

Schließen Sie hier eine Sony Schnittsteuer-Einheit der BVE-Serie (z.B. BVE-500ACE oder 5000P) mit einem gesondert lieferbaren 36-poligen Fernbedienungskabel an.

18 Fernbedienungsanschluß-1 [REMOTE-1] (9-polig)

Schließen Sie hier mit dem 9-poligen Fernbedienungskabel (mitgeliefert) einen weiteren BVU-800P für den Schnittbetrieb an.

19 Stundenanzeige [HOURS METER]

Diese Anzeige zeigt die gesamte Zeit an, die das Gerät im Aufnahme-, Wiedergabe-, Schnitt-, Suchlauf-, Schnellvorlauf- oder Rücklaufbetrieb verwendet wurde (bis maximal 1000 Stunden).

20 Spannungswähler [VOLTAGE SELECT]

Einstellbar auf 100, 120, 220 oder 240V Wechselspannung.

2 Netzanschluß [AC IN]

Schließen Sie hier das mitgelieferte Netzkabel an, und stecken Sie den Netzstecker in eine Wandsteckdose.

22 Time-Base-Corrector-Anschluß [TBC]

An diesem Anschluß kann ein Time-Base-Corrector angeschlossen werden.

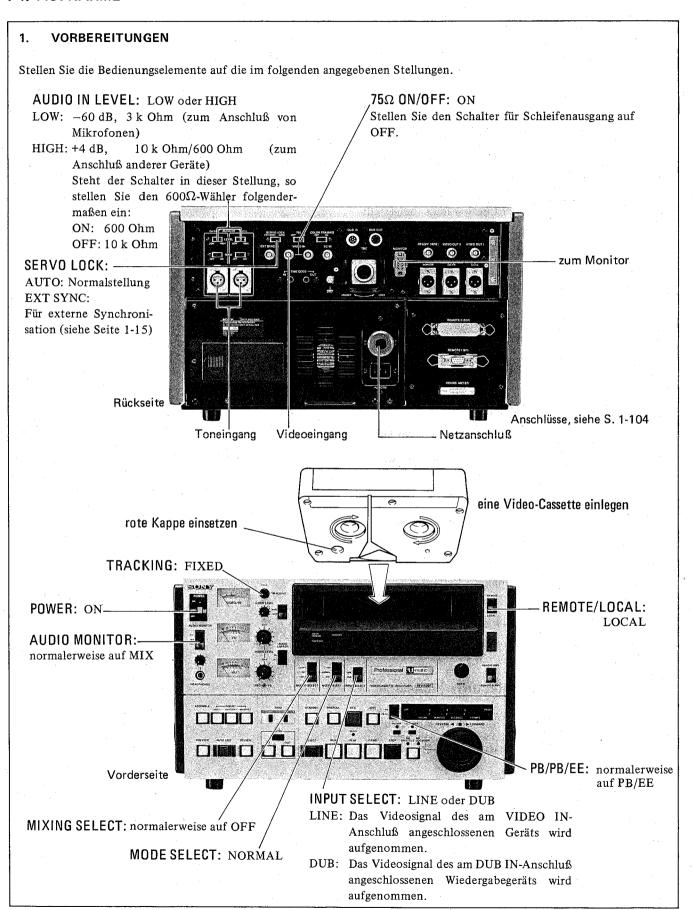
23 Zeitkode Ausgang [TIME CODE OUT] (RCA-Cinch)

An diesem Anschluß liegt das Wiedergabe-Zeitkodesignal an. Es kann ein Zeitkodeauswerter angeschlossen werden. Bei Aufnahme- und E-zu-E-Betrieb liegt hier das Zeitkode-Signal vom TIME CODE IN-Anschluß

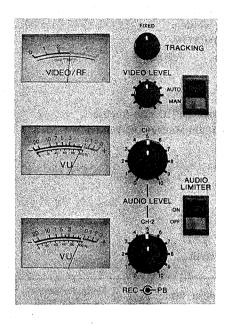
24 Zeitkode-Eingang [TIME CODE IN] (RCA-Cinch)

Schließen Sie hier zur Aufzeichnung des Zeitkode-Signals einen Zeitkode-Generator an.

1-4. AUFNAHME



2. EINSTELLUNG DES VIDEO- UND TONPEGELS



Videopegel

Stellen Sie zur automatischen Videopegel-Aussteuerung den AUTO/MAN-Wähler auf AUTO.

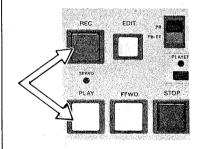
Stellen Sie zur manuellen Videopegel-Aussteuerung den AUTO/MAN-Wähler auf MAN, und regulieren Sie den VIDEO LEVEL-Regler so ein, daß der Zeiger der Pegelanzeige sich im blauen Bereich bewegt.

Tonpegel

Stellen Sie den AUDIO LIMITER-Schalter auf OFF. Stellen Sie dann die AUDIO LEVEL-Regler für Kanal 1 und Kanal 2 so ein, daß die VU-Meter maximal bis 0 ausschlagen.

Stellen Sie für Aufnahmen mit Tonpegel-Begrenzung den AUDIO LIMITER-Schalter auf ON.

3. STARTEN DER AUFNAHME



Drücken Sie gleichzeitig die REC- und die PLAY-Taste.

Es dauert einige Sekunden, bis das Kopftrommel- und Bandantriebswellen-Servo-System stabil arbeitet. Die SERVO-Kontrollampe leuchtet dann auf.

Außerdem leuchten die Anzeigen: REC, PLAY, STANDBY.

Drücken Sie zum Stoppen der Aufnahme die STOP-Taste.

Es leuchten die Anzeigen: STOP, STANDBY.

Ist das Band bis zum Ende durchgelaufen, so wird es automatisch zurückgespult und am Bandanfang angehalten.

ABGREIFEN VON VIDEO- UND TONSIGNAL

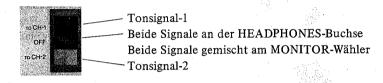
Videosignal: Es kann am VIDEO OUT- oder am MONITOR-Anschluß abgegriffen

werden.

Tonsignal: Zum Abgreifen des Tonsignals kann am AUDIO MONITOR-Anschluß

ein Audiosystem, am MONITOR-Anschluß ein Monitor oder an der HEADPHONES-Buchse ein Stereo-Kopfhörer angeschlossen werden. Das anliegende Tonsignal kann folgendermaßen am AUDIO MONITOR-

Wähler eingestellt werden.



STELLUNG DES PB/PB/EE-WÄHLERS

Mit diesem Wähler wird das Monitorbildsignal und das Monitortonsignal eingestellt.

Betriebsart Stellung des Wählers	Cassetten- auswurf	Einfädeln oder Ausfädeln	Wieder- gabe	Auf- nahme	Schnitt	Such- lauf	Schnellvor- oder Rücklauf	Stop	Wenn der Bereit- schaftsbetrieb ausgeschaltet wird
PB/EE	EE	EE	PB	EE	EE	РВ	EE	EE	EE
РВ	EE	EE	PB	EE	EE	PB	PB	PB	PB

Beim Drücken der REC-Taste während des Wiedergabe-, Suchlauf-, Schnellvorlaufoder Rücklaufbetriebs erscheint auf dem Monitor das E-zu-E-Bild- und Tonsignal.
Beim Drücken der EDIT-Taste kann am Monitor das E-zu-E-Bild- und das an der
ASSEMBLE- oder INSERT-Taste gewählte Tonsignal kontrolliert werden. Wird die
Taste ausgerastet, so geht das Gerät wieder in den vorhergehenden Betriebszustand
über

Während des Stopbetriebs erscheint beim Drücken und Ausrasten der REC- oder EDIT-Taste das E-zu-E-Bild- und Tonsignal weiter am Monitor. Drücken Sie die STOP-Taste, um das Gerät in den vorhergehenden Betriebszustand überzuführen, oder drücken Sie die entsprechende Taste zum Überführen in einen anderen Betriebszustand.

BEZUGSIGNALWÄHLER UND SYNCHRONSIGNAL-WÄHLER

Mit diesen Wählern kann das am VIDEO IN- oder am DUB IN-Anschluß anliegende Videosignal, das am EXT SYNC IN-Anschluß anliegende externe Signal oder das interne Synchronisationssignal als Bezugsignal für die Synchronisation ausgewählt werden.

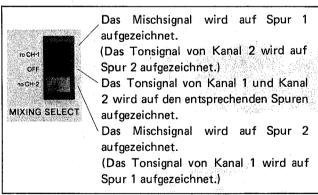
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ing des) LOCK- hlers		EXT SYNC					
Betriebsart des Video-Recorders		Aufnahme	Wiederg	gabe, E-E	Aufnahme	Wiedergabe, E-E		
	des MODE F-Wählers							
Eingangssignal an VIDEO IN EXT SYNC oder DUB IN ja ja ja nein nein ja nein		EDIT, NORMAL, TBC	EDIT	NORMAL, TBC	EDIT, NORMAL, TBC			
		VIDEO	VIDEO (EXT SYNC)*	EXT SYNC IN (VIDEO)**	EXT	SYNCIN		
		VIDEO	(internes	DEO Synchroni- ssignal)*	VIDEO	VIDEO (Internes Synchroni- sationssignal) *		
				EXTSYNO	CIN	N .		
			Internes Synchronisationssignal					

^{*} Ist ein BVE-500, BVE-500ACE, BVE-800 oder zwei BVU-800P zum Schneiden angeschlossen, und befindet sich das Gerät nicht in Wiedergabe, so ist das Bezugsignal der Synchronisierung in den Klammern angegeben.

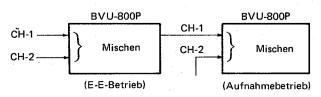
** Am Modell mit Seriennummer 11491 oder mehr wird das Bezugsignal der Aufnahmemaschine VIDEO sein, wenn eine der ASSEMBLE- bzw. INSERT-Tasten gedrückt ist (die Taste leuchtet) und sich der Videorecorder im Wiedergabebetrieb befindet, oder wenn die EDIT-Taste leuchtet.

MISCHUNG DER TONSIGNALE

Beim Aufnehmen können die Tonsignale von Kanal 1 und Kanal 2 gemischt werden. Es ist auch möglich, das gemischte Tonsignal entweder auf Spur 1 oder Spur 2 aufzunehmen. Stellen Sie dazu den MIXING SELECT-Wähler wie folgt ein:



- Das Mischsignal aus Tonsignal-1 und Tonsignal-2 wird mit gleichem Pegel gemischt aufgezeichnet.
- Werden zwei BVU-800P zusammengeschaltet, so können drei Tonsignale gemischt werden.



BANDSCHUTZAUTOMATIK

Befindet sich das Gerät länger als 8 Minuten in der Stopfunktion, so wird der Bereitschaftsbetrieb automatisch abgeschaltet (die Kopftrommel bleibt stehen), um das Band und die Videoköpfe zu schonen. Wird das Band im Suchlaufbetrieb länger als 8 Minuten angehalten, so läuft es mit 1/30 der Normalgeschwindigkeit in Vorwärtsrichtung weiter. Bringen Sie dann das Gerät durch Drücken der entsprechenden Taste in die gewünschte Betriebsfunktion (außer Stopfunktion). Um das Gerät in die Stopfunktion zu bringen, muß die STANDBY-Taste gedrückt werden.

KONDENSWASSERANSAMMLUNG

Wenn sich Kondenswasser angesammelt hat, so bleibt der Kopftrommel- und der Antriebswellen-Motor stehen, und die Cassette wird ausgeworfen. An der Vorderseite des Geräts leuchtet dann die AUTO OFF-Lampe auf. Nach kurzer Zeit setzt sich die Kopftrommel wieder in Bewegung. Ist die AUTO OFF-Lampe wieder erloschen, so warten Sie noch etwa 10 Minuten, bevor Sie das Gerät benutzen.

ZEITKODE-AUFZEICHNUNG

Schließen Sie zur gleichzeitigen Aufzeichnung des Zeitkodes einen EBU-Zeitkode-Generator am TIME CODE IN-Anschluß an.

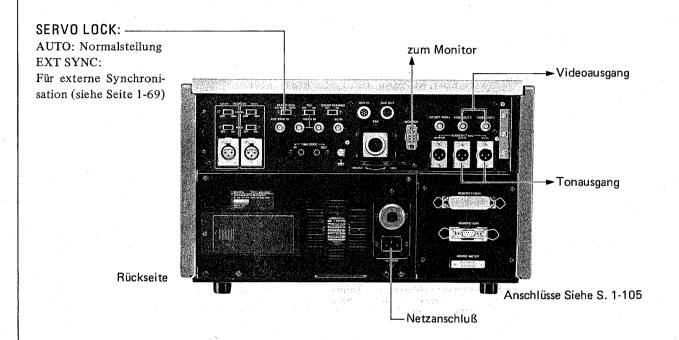
Da beim Aufzeichnen des Zeitkodes ein Begrenzer wirksam ist, braucht keine Einstellung vorgenommen zu werden.

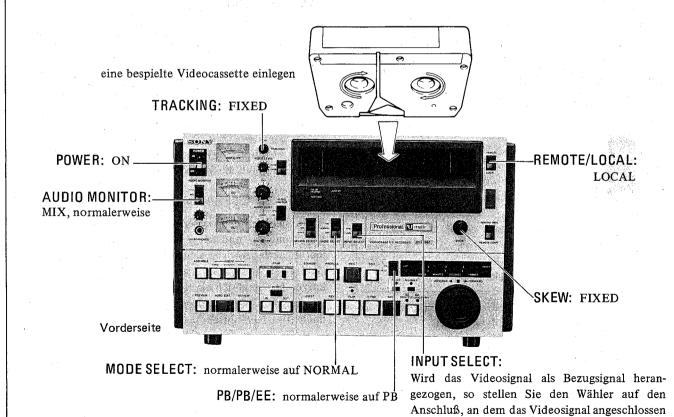
Beim Aufnehmen leuchtet die TIME CODE-Anzeige.

1-5. WIEDERGABE



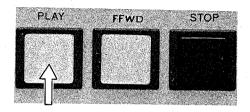
Stellen Sie die Bedienungselemente folgendermaßen ein:





ist.

2. STARTEN DER WIEDERGABE



Drücken Sie die PLAY-Taste.

Das Kopftrommel- und das Antriebswellen-Servo-System brauchen einige Sekunden, bevor sie stabil arbeiten. Bei stabilem Betrieb leuchtet die SERVO-Kontrollampe auf.

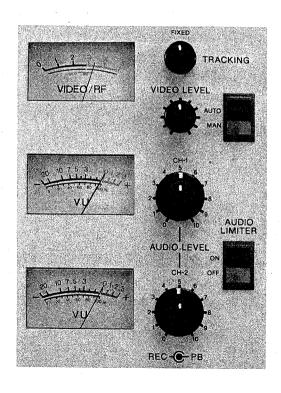
Es leuchten die Lampen: PLAY, STANDBY.

Drücken Sie zum Stoppen der Wiedergabe die STOP-Taste.

Es leuchten die Lampen: STOP, STANDBY.

Ist das Band bis zum Ende durchgelaufen, so wird es automatisch zurückgespult und am Bandanfang angehalten.

3. EINSTELLUNGEN



Stellen Sie die Regler normalerweise auf FIXED. Ist das Wiedergabebild gestört,

so drehen Sie den TRACKING-Regler nach links oder nach rechts, so daß der Zeiger der VIDEO/RF-Anzeige möglichst weit ausschlägt.

• Stellen Sie den Regler nach beendeter Wiedergabe dieses speziellen Bandes wieder auf FIXED.

Treten Störungen im oberen Bildteil auf, so stellen Sie den SKEW-Regler so ein, daß die Bildqualität optimal ist.

EINSTELLUNG DES VIDEO- UND TONPEGELS

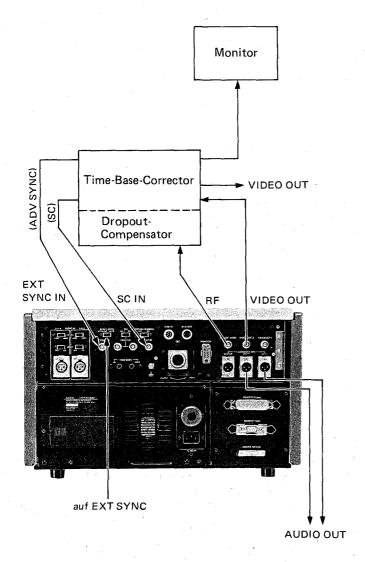
Videopegel:

Der Videopegel wird automatisch eingestellt.

Tonpegel:

Stellen Sie die AUDIO LEVEL-Regler für Tonsignal-1 und Tonsignal-2 bei Wiedergabe so ein, daß die VU-Meter in den Spitzen bis 0 ausschlagen.

WIEDERGABE MIT EINEM TIME-BASE-CORRECTOR



Stellen Sie den auf der Vorderseite angebrachten MODE SELECT-Wähler auf TBC.

ABGREIFEN VON VIDEO- UND TONSIGNAL

Siehe Seite 1-70.

AUTOMATISCHE ABSCHALTUNG

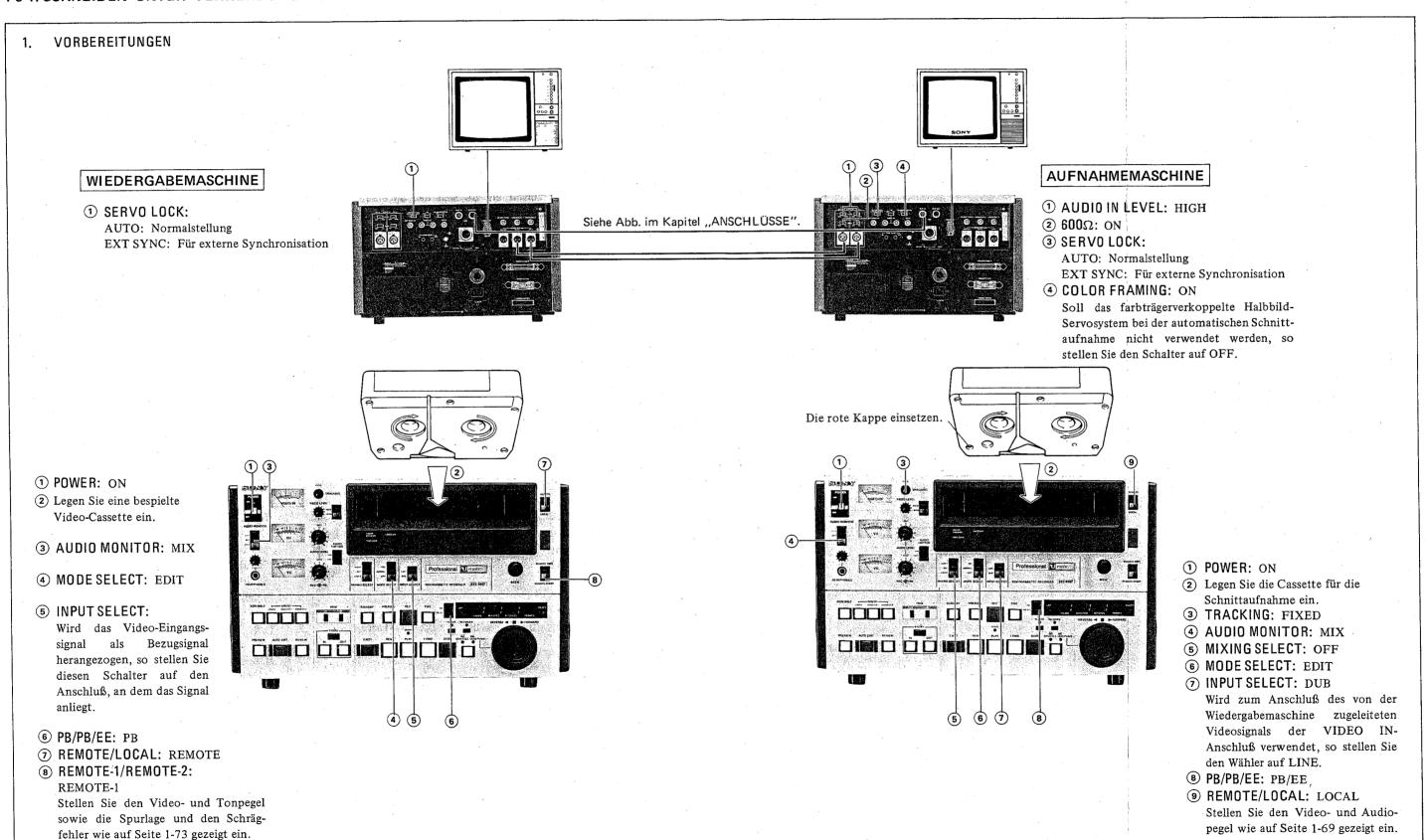
Siehe Seite 1-71.

ZEITKODE-WIEDERGABE

Schließen Sie zur Auswertung des EBU-Zeitkodes einen Zeitkode-Auswerter am TIME CODE OUT-Anschluß an. Bei Wiedergabebetrieb leuchtet dann die TIME CODE-Lampe auf.

1-6. SCHNEIDEN

1-6-1. SCHNEIDEN UNTER VERWENDUNG VON ZWEI BVU-800P VIDEO-CASSETTENRECORDERN



SCHNITTENDPUNKT DER WIEDERGABEMASCHINE

0	Lokalisieren Sie den gewünschten Schnittendpunkt in der gleichen Weise wie den Schnittanfangspunkt.	(Führen Sie die Schritte 1 bis 5 der vorhergehenden Seite aus.)
2	Drücken Sie gleichzeitig die OUT- und die ENTRY-Taste. ENTRY IN OUT	Die OUT-Lampe leuchtet auf. Der Zählerstand dieses Punktes wird als Schnittendpunkt abgespeichert. • Werden die gleichen Punkte als Schnittanfangs- und Schnittendpunkt eingegeben oder wird der Schnittendpunkt vor dem Schnittanfangspunkt eingegeben, so wird der Schnittanfangspunkt gelöscht. Achten Sie auf die richtige Eingabe des Schnittanfangs- und Schnittendpunktes.

• Der Schnittendpunkt kann entweder in die Wiedergabemaschine oder in die Aufnahmemaschine eingegeben werden.

SCHNITTANFANGSPUNKT DER AUFNAHMEMASCHINE

Drücken Sie die RECORDER-Taste.	Die RECORDER-Anzeige leuchtet auf.
RECORDER	
Lokalisieren Sie den Bandpunkt, von dem ab die Szene nommen werden soll in gleicher Weise wie den S anfangspunkt der Wiedergabemaschine.	
3 Drücken Sie gleichzeitig die IN- und die ENTRY-Taste.	Die IN-Lampe leuchtet. Der Zählerstand dieses Punktes wird als Schnittanfangspunkt abgespeichert. Der erste Schnittanfangspunkt sollte mindestens 10 Sekunden vom Bandanfang entfernt liegen (bzw. 5 Sekunden vom Bandanfang, wenn der Vorlaufzeit-Schalter auf OFF steht).

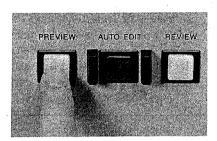
SCHNITTENDPUNKT DER AUFNAHMEMASCHINE

Gehen Sie zur Eingabe des Schnittendpunktes der Aufnahmemaschine folgendermaßen vor:

- 1) Lokalisieren Sie den Endpunkt der Aufnahme in gleicher Weise wie den Schnittanfangspunkt der Wiedergabemaschine.
- Drücken Sie gleichzeitig die OUT- und die ENTRY-Taste.
 Der Zählerstand dieses Punktes wird als Schnittendpunkt abgespeichert.

4. PROBEVORSCHAU DES SCHNITTVORGANGES (PREVIEW)

Sind die Schnittanfangs- und Schnittendpunkte einmal festgelegt, so kann durch Drücken der PREVIEW-Taste eine Probevorschau des Schnittvorgangs vorgenommen werden.



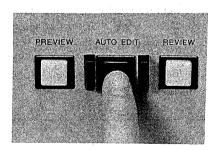
- Drücken Sie nach dem Festlegen der Schnittanfangsund Schnittendpunkte die PREVIEW-Taste. Die PREVIEW-Lampe leuchtet.
- 2 Beobachten Sie den Monitor der Aufnahmemaschine. Überprüfen Sie, ob die Schnittanfangs- und Schnittendpunkte richtig gewählt sind und ob die Qualität des aufzuzeichnenden Bildes zufriedenstellend ist.
- 3 Ändern Sie falls notwendig die Schnittanfangs- und Schrittendpunkte, und überprüfen Sie die Szene erneut durch Drücken der PREVIEW-Taste.

Drücken Sie zum Anhalten des Bandes während der Probevorschau die STOP-Taste. Soll die automatische Schnittaufnahme während der Probevorschau beginnen, so drücken Sie die AUTO EDIT-Taste.

5. STARTEN DER SCHNITTAUFNAHME

Drücken Sie die AUTO EDIT-Taste.

Die Aufnahme wird automatisch ausgeführt.



• Die automatische Schnittaufnahme kann während der Probevorschau gestartet werden; sie kann jedoch auch direkt ohne vorherige Probevorschau gestartet werden.

Nach beendeter Schnittaufnahme

Ist das Aufnehmen einer Szene (vom Schnittanfangs- bis zum Schnittendpunkt) beendet, so suchen Sie die Schnittanfangs- und Schnittendpunkte der nächsten Szene, wie auf den vorhergehenden Seiten beschrieben, auf. Der Schnittendpunkt einer Szene kann auch zum Schnittanfangspunkt der nächsten Aufnahme gewählt werden.

Bildüberwachung während der Schnittaufnahme

Während der Schnittaufnahme kann das zwischen 10 Sekunden (bzw. 5 Sekunden) vor dem Schnittanfangspunkt und 2 Sekunden nach dem Schnittendpunkt liegende Material auf dem an die Aufnahmemaschine angeschlossenen Monitor überwacht werden.

Fehlt beim Einfügbetrieb ein Teil des CTL-Signals auf dem Band der Aufnahmemaschine oder ist ein Teil nicht synchronisiert, so erscheint das Wiedergabebild der Aufnahmemaschine auf dem Monitor und die Schnittaufnahme wird an diesem Teil nicht durchgeführt.

Stop während der Schnittaufnahme

Zum Stoppen der Aufnahme vor Erreichen des Schnittendpunktes drücken Sie gleichzeitig die OUT- und die ENTRY-Taste.

Bandschutzautomatik

Wird das Gerät im Suchlaufbetrieb länger als 8 Minuten angehalten, so bewegt sich das Band mit 1/30 der Normalgeschwindigkeit in Vorwärtsrichtung weiter, um das Band zu schützen. Der abgespeicherte Schnittpunkt bleibt erhalten.

Ändern der Vorlaufzeit

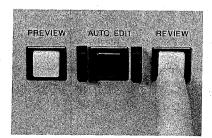
Falls notwending kann die Vorlaufzeit auf 5 Sekunden geändert werden. Die Vorlaufzeit der Wiedergabe- und der Aufnahmemaschine weist den an der Aufnahmemaschine eingestellten Wert auf.

Einstellung der Schnittgenauigkeit

Die Schnittgenauigkeit ist werkseitig auf \pm ein Einzelbild eingestellt. Ist eine Neueinstellung erforderlich, so schlagen Sie im Teil 2 und den folgenden Teilen nach.

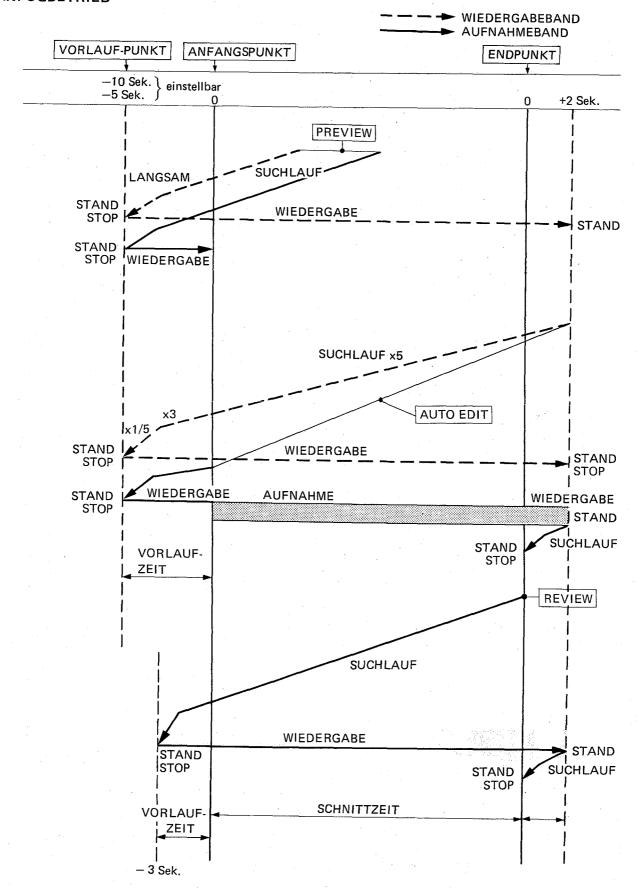
6 ÜBERPRÜFUNG DER SCHNITTAUFNAHME (REVIEW)

Ist eine Szene vom Schnittanfangs- bis zum Schnittendpunkt aufgezeichnet, so kann das Schnittergebnis durch Drücken der REVIEW-Taste überprüft werden.

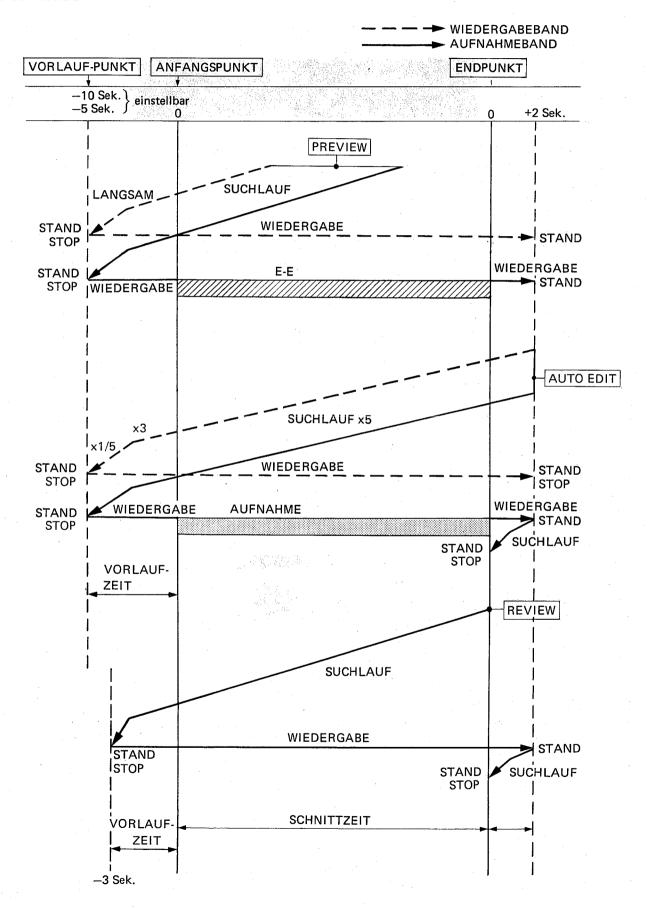


- Drücken Sie nach beendeter Aufnahme die REVIEW-Taste.
 Die REVIEW-Lampe leuchtet auf.
 - Nur das Band der Aufnahmemaschine bewegt sich.
- Überprüfen Sie die Qualität der Schnittaufnahme auf dem Monitor der Aufnahmemaschine.
 Drücken Sie zum Anhalten des Bandes während der Überprüfung der Schnittaufnahme die STOP-Taste.

BANDBEWEGUNG ANFÜGBETRIEB



EINFÜGBETRIEB



ZEITZÄHLER (BANDZÄHLER)



Der Zeitzähler zählt die auf dem Band aufgezeichneten CTL-Signale, und die auf der Anzeige erscheinenden Zahlen zeigen bei Normalgeschwindigkeit die bereits durchgelaufene Bandmenge in Stunden, Minuten, Sekunden und Einzelbildern an. Die Anzeige ändert sich mit dem Bandlauf.

• Ist kein CTL-Signal aufgezeichnet, so kann der Zähler die Zeit nicht zählen. Deshalb kommt es bei einem unbespielten Band zu einer fehlerhaften Anzeige.

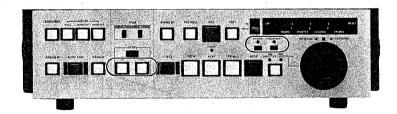
Rückstellung des Zeitzählers auf "0:00:00:00"

Drücken Sie die RESET-Taste.

- Läuft das Band vom "0:00:00:00" -Punkt aus rückwärts, so erscheint links vor der Zahlenanzeige das Zeichen "—".
- Zum leichteren Auffinden der Schnittpunkte empfielt es sich mit Hilfe der Zeitzähleranzeige eine Liste des Bandinhalts anzulegen.

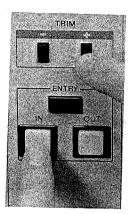
Überprüfung der Schnittanfans- und Schnittendpunkte mit Hilfe des Zeitzählers

Ist die PLAYER-Taste gedrückt, so zeigt der Zeitzähler beim Drücken der IN- oder OUT-Taste die Schnittanfangs- bzw. Schnittendpunkte der Wiedergabemaschine an; ist die RECORDER-Taste gedrückt, so zeigt er die entsprechenden Punkte der Aufnahmemaschine an.



Die Anzeige erfolgt nur solange die entsprechende Taste gedrückt wird.

Feineinstellung des Schnittpunktes (TRIM)

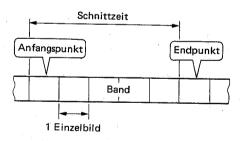


- Drücken Sie die IN- und OUT-Taste, und lassen Sie sie während Schritt 2 gedrückt.
 - Auf der Anzeige erscheint die Einzelbildnummer des Schnittanfangs- und des Schnittendpunktes.
- 2 Drücken Sie zum Vorrücken des Schnittpunktes um ein Einzelbild die TRIM + -Taste und zum Rücksetzen des Schnittpunktes um ein Einzelbild die TRIM -Taste kurzzeitig.

Drücken Sie die + oder - -Taste mehrmals kurzzeitig, bis die gewünschte Einzelbildnummer erscheint.

Der Schnittpunkt kann auch durch Eingeben eines neuen Punktes geändert werden.

Drücken der LAP-Taste

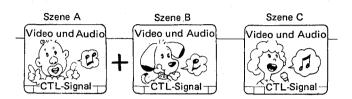


Die Schnittzeit wird vom Zeitzähler angezeigt.

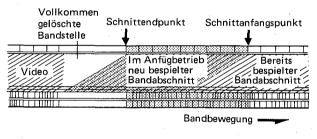
Eingegebene Schnittpunkte	Die Zeitzähleranzeige zeigt Folgendes an:
Schnittanfangs- und Schnittend- punkte sind eingegeben.	Zeit vom Schnittanfangs- zum Schnittendpunkt.
Nur der Schnittanfangspunkt ist eingegeben.	Zeit vom Schnittanfangspunkt bis zum Punkt, an dem die Taste ge- drückt wurde.
Nur der Schnittendpunkt ist eingegeben.	Zeit der vorhergehenden Schnitt- szene.
Schnittanfangs- und Schnittend- punkte sind nicht eingegeben.	Zeit der vorhergehenden Schnitt- szene.

EINFÜGSCHNITTE

Bei Einfügbetrieb werden sämtliche Signale — Video, Tonsignal-1, Tonsignal-2 und CTL-Signale — gleichzeitig auf Band aufgezeichnet. Zuerst werden die Video-, Ton- und CTL-Signale von Szene A und anschließend die Video-, Ton- und CTL-Signale von Szene B, Szene C usw. aufgezeichnet.



Der Anfügbetrieb dient zur gleichzeitigen Aufzeichnung von Video- und Tonsignal auf ein unbespieltes Band. Die Aufnahmeteile schließen rückseitig lückenlos ab. Wenn eine neue Szene auf ein bereits bespieltes Band im Anfügbetrieb aufgenommen wird, entsteht am Schnittendpunkt eine vollkommen gelöschte Bandstelle, so daß das Bild an dieser Stelle instabil wird. Verwenden Sie deshalb zum Einfügen von neuen Szenen auf bereits bespielte Bänder den Einfügbetrieb.



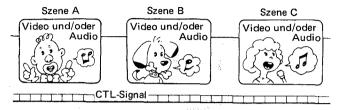
AUFNAHME AUF EIN NEUES BAND IM ANFÜGBETRIEB

Eine vorhergehende Aufzeichnung des CTL-Signals ist nicht notwendig; soll die Anfügaufnahme jedoch vom Anfang eines neuen Bandes oder nach einer gelöschten Bandstelle vorgenommen werden, muß mindestens 10 Sekunden (bzw. 5 Sekunden, wenn der Vorlaufzeit-Schalter auf OFF steht) vor dem ersten Schnittpunkt ein CTL-Signal aufgezeichnet sein.

Statt ein CTL-Signal aufzunehmen, kann man auch einfach im Aufnahmebetrieb ein Band kopieren.

EINFÜGSCHNITTE

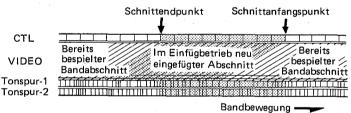
Bei Einfügbetrieb muß das CTL-Signal bereits auf dem Band aufgezeichnet sein. Neue Video- und/oder Tonsignale werden synchron zu diesem CTL-Signal aufgenommen.



Einfügbetrieb ist das geeignete Verfahren, wenn Sie -

- exakte Schnitte auf ein bereits bespieltes Band durchführen wollen.
- Musik bzw. einen Kommentar auf ein Band, auf das bereits Videosignale aufgezeichnet sind, aufnehmen wollen.
- Videosignale auf ein Band, auf das bereits Tonsignale aufgezeichnet sind, aufnehmen wollen.
- Video- und/oder Tonsignale auf ein Band, das im Anfügbetrieb redigiert worden ist, neu aufzeichnen wollen.

Bei Einfügbetrieb ist es möglich, eine neue Szene in eine bereits vorhandene Aufnahme einzufügen. Das Bild am Schnitt-Endpunkt ist stabil.



AUFNAHME AUF EIN NEUES BAND IM EINFÜGBETRIEB

Das CTL-Signal muß durchgehend mindestens 10 Sekunden (bzw. 5 Sekunden, wenn der Vorlaufzeit-Schalter auf OFF steht) vor und nach der zu bespielende Stelle aufgezeichnet sein.

Zum Aufnehmen des CTL-Signals:

- Schließen Sie eine Video-Kamera an, und nehmen Sie das Ausgangssignal durchgehend auf.
- Schließen Sie einen normalen Videosignalgenerator an, und nehmen Sie das Ausgangssignal durchgehend auf.

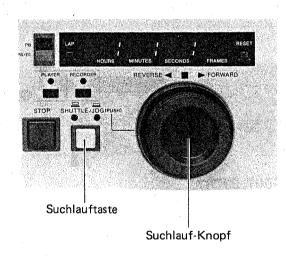
BLINKEN DER KONTROLLAMPEN

Drücken Sie die Tasten, über denen die Kontrollampen blinken, um den Schnittvorgang abzuschließen. Das Aufleuchten und Blinken der Kontrollampen hat folgende Bedeutung.

- Das Blinken der ASSEMBLE- und INSERT (VIDEO, AUDIO CH1, AUDIO CH2)-Lampen zeigt an, daß der Schnittbetrieb durch Drücken der entsprechende Taste festgelegt werden muß.
 - Das Leuchten mehrerer Lampen oder einer Lampe zeigt an, daß der Schnittbetrieb festgelegt ist.
- Das Blinken der IN- und/oder OUT-Lampe(n) an der Wiedergabe- und Aufnahmemaschine zeigt an, daß der (die) Schnittpunkt(e) eingegeben werden muß (müssen).
 - Das Leuchten der IN- und OUT-Lampen zeigt an, daß die Schnittanfangs- und Schnittendpunkte festgelegt sind, aber die Schnittaufnahme noch nicht durchgeführt wurde.
- Das Blinken der PREVIEW- und AUTO EDIT-Lampe zeigt an, daß der Vorschaubetrieb oder der automatische Schnittbetrieb durchgeführt werden kann.

Das Leuchten der PREVIEW- oder AUTO EDIT- Lampe zeigt an, daß sich die Aufnahmemaschine im entsprechenden Betriebszustand befindet.

VERWENDUNG DES SUCHLAUF-KNOPFES



Verwendungsart 1: Direkte Überführung des Geräts in den Shuttle-Betrieb mit der am Suchlauf-Knopf eingestellten Geschwindigkeit

- Stellen Sie den Suchlauf-Knopf in die gewünschte Stellung im Shuttle-Betrieb (z.B. auf 5 fache Normalgeschwindigkeit in Vorwärtsrichtung).
- 2 Drücken Sie die PLAY-Taste.
 Der Recorder geht in den Wiedergabebetrieb über.
- Orücken Sie die Suchlauftaste. Das Gerät geht direkt in den Shuttle-Betrieb mit 5 facher Normalgeschwindigkeit in Vorwärtsrichtung über.

Verwendungsart 2: Verhinderung von ungewolltem Übergang in den Suchlaufbetrieb

Wird der Suchlauf-Knopf während des Betriebs versehentlich berührt, geht das Gerät in den Suchlaufbetrieb über. Um dies zu verhindern, stellen Sie den auf der Platine SY-37 angebrachten Schalter S4 auf OFF. Der Suchlauf-Knopf ist dann nur betriebsbereit, wenn die Suchlauftaste gedrückt wird. Genauere Information hierzu finden Sie im Teil 2.

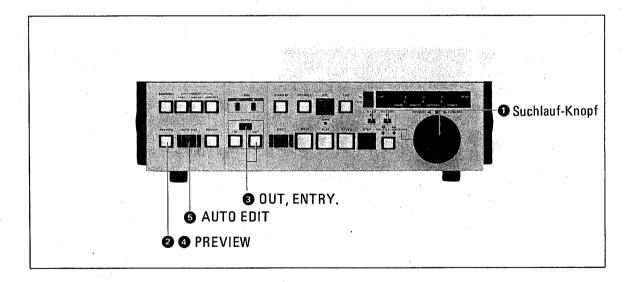
SCHNELLES SCHNEIDEN

Sie können Zeit sparen, indem Sie die Schnittanfangs- und Schnittendpunkte im Vorschaubetrieb eingeben.

- Suchen Sie den Schnittanfangs- und den Schnittendpunkt mit dem Suchlauf-Knopf sowohl für die Wiedergabe- als auch für die Aufnahmemaschine auf. Stellen Sie ein Standbild ein.
- 2 Drücken Sie die PREVIEW-Taste.
 Die im Schritt 1 eingestellten Punkte werden als Schnittanfangs- und Schnittendpunkt der Aufnahme- und der Wiedergabemaschine abgespeichert. Der Vorschaubetrieb beginnt.
 Die IN-Lampen leuchten.
- Beobachten Sie den Monitor der Aufnahmemaschine und drücken Sie am Endpunkt der Szene gleichzeitig die OUT- und die ENTRY-Tasten an der Wiedergabe- und an der Aufnahmemaschine.
 Der Wert des Zeitzählers wird dann als Schnittendpunkt abgespeichert. Das Band

Der Wert des Zeitzählers wird dann als Schnittendpunkt abgespeichert. Das Band hat dann noch eine Auslaufzeit von weiteren 2 Sekunden und kehrt dann zum Vorlauf-Punkt zurück.

- Sie können den Punkt, an dem die Szene enden soll, auch mit dem Suchlauf-Knopf aufsuchen.
- 4 Falls notwendig führen Sie noch eine Vorschau durch.
- 5 Drücken Sie die AUTO EDIT-Taste. Die Schnittaufnahme beginnt dann.



Noch schnelleres Schneiden

Auch ohne Eingabe von Anfangs- und Endpunkten können Schnitte gemacht werden.

- Suchen Sie den Schnittanfangs- und den Schnittendpunkt mit dem Suchlauf-Knopf an der Wiedergabe- und an der Aufnahmemaschine auf. Stellen Sie dann ein Standbild ein.
- Drücken Sie die AUTO EDIT-Taste.
 Dieser Punkt wird dann zum Schnittanfangspunkt der Wiedergabe- und der Aufnahmemaschine.
- Beobachten Sie den Monitor der Aufnahmemaschine, und drücken Sie an dem gewünschten Endpunkt der Szene gleichzeitig die OUT- und die ENTRY-Taste an der Wiedergabe- und an der Aufnahmemaschine. Dieser Punkt wird dann zum Schnittendpunkt, an dem die Aufnahme endet.

FORTLAUFENDES SCHNEIDEN (BUTT)

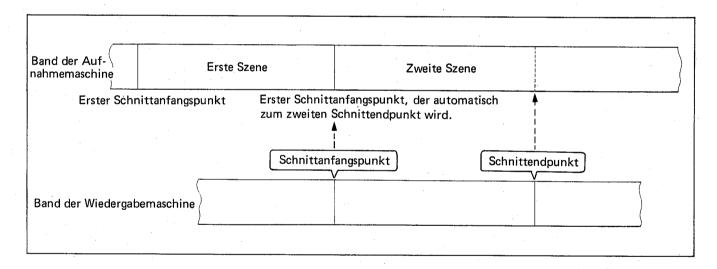
Nach einem Schnittvorgang kehrt der Recorder zum Schnittendpunkt zurück und stoppt. Dieser Schnittendpunkt kann zum nächsten Schnittanfangspunkt gemacht werden.

Diese Redigierungsart wird Butt-Betrieb genannt.

- Suchen Sie die gewünschten Stellen auf, und geben Sie die nächsten Schnittanfangs- und Schnittendpunkte für die Wiedergabemaschine ein.
- 2 Drücken Sie die AUTO EDIT-Taste.
 Der Schnittvorgang wird dann ausgeführt.

Sie können auch folgendermaßen vorgehen:

- Suchen Sie die gewünschte Stelle, und geben Sie den nächsten Schnittanfangspunkt für die Wiedergabemaschine ein.
- 2 Drücken Sie die AUTO EDIT-Taste. Die Schnittvorgang beginnt dann.
- Beobachten Sie den Monitor der Aufnahmemaschine, und drücken Sie an dem gewünschten Endpunkt der Szene gleichzeitig die OUT- und die ENTRY-Taste an der Wiedergabe- und an der Aufnahmemaschine. Dieser Punkt wird dann zum Schnittendpunkt, an dem die Aufnahme endet.



UNTERSCHIEDLICHE SCHNITTANFANGS- ODER SCHNITTENDPUNKTE FÜR VIDEO UND AUDIO (SPLIT)

Bei Einfügbetrieb kann der Schnittvorgang der Videospur, der Tonspur-1 und der Tonspur-2 an verschiedenen Stellen gestoppt werden.

- Wählen Sie das gewünschte Eingangssignal durch Drücken einer oder aller INSERT-Tasten.
- 2 Starten Sie den automatischen Schnittvorgang.
- Drücken Sie die entsprechende(n) INSERT-Taste(n) an der Stelle, an der der Schnittvorgang des Video- oder des Tonsignals gestoppt werden soll.

 Die entsprechende(n) Kontrollampe(n) geht (gehen) aus.

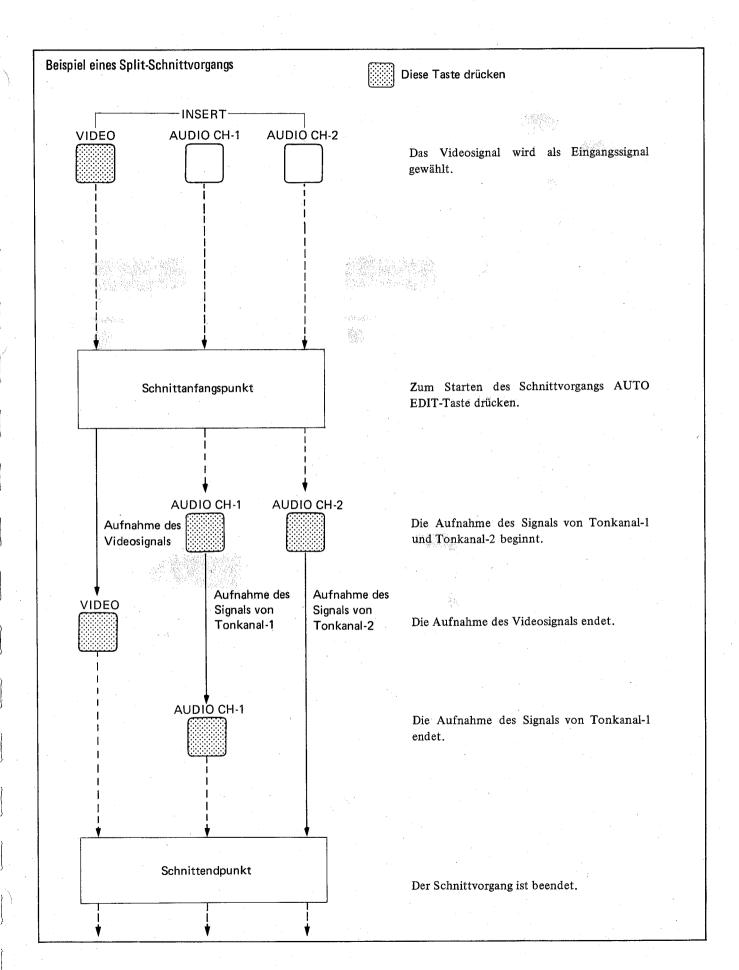
 Drücken Sie die entsprechende(n) INSERT-Taste(n) an der Stelle, an der der Schnittvorgang der Video- oder des Tonsignals begonnen werden soll.

 Die entsprechende(n) Kontrollampe(n) leuchlet (leuchten) auf.

 An jeder beliebigen Stelle kann (können) das (die) gewünschte(n) Signal(e) durch Drücken der entsprechenden INSERT-Taste(n) ein- bzw. ausgeblendet werden.

 Dies ist auch möglich, wenn gerade alle Signale ausgeblendet sind.
- Ist ein Schnittendpunkt eingegeben, wird der Schnittvorgang automatisch gestoppt. Ist kein Schnittendpunkt eingegeben, so drücken Sie zum Stoppen des Schnittvorgangs die ENTRY- und die OUT-Taste: Ist der Schnittvorgang einmal gestoppt, kann keine Einblendung des Video- oder des Tonsignals durch einfaches Drücken der INSERT-Tasten mehr vorgenommen werden

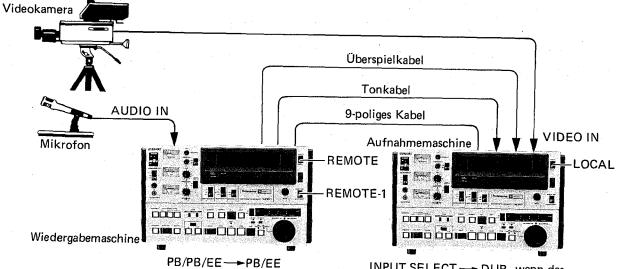
Auch im manuellen Einfügschnitt-Betrieb kann der Split-Schnittvorgang in gleicher Weise durchgeführt werden. Drücken Sie dann zum Stoppen des Schnittvorgangs die PLAY-Taste.



SCHNEIDEN MIT EINEM SIGNAL VON EINER VIDEOKAMERA (LIVE-SCHNITT)

Anschlüsse

Schneiden mit einem Videokamerasignal und einem Wiedergabemaschinensignal: Stellen Sie die Anschlüsse her, wie in der Abbildung gezeigt.



Wenn der INPUT SELECT-Schalter der Aufnahmemaschine auf LINE steht, stellen Sie den REMOTE/LOCAL-Schalter der Wiedergabemaschine auf LOCAL.

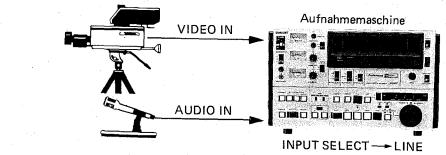
INPUT SELECT — DUB, wenn das Signal der Wiedergabemaschine aufgenommen werden soll.

LINE, wenn das Signal der Videokamera aufgenommen werden soll.

• Wird das Signal der Videokamera aufgenommen, stellen Sie die Wiedergabemaschine auf STOP.

Schneiden nur mit einem Videokamerasignal:

Schließen Sie die Videokamera am VIDEO IN-Anschluß der Aufnahmemaschine an, und stellen Sie den INPUT SELECT-Wähler der Aufnahmemaschine auf LINE.



1 Stellen Sie die Schnittbetriebsart ein: Anfüg- oder Einfügschnitt.

Anfügschnitt

Betrieb

- Geben Sie nur den Schnittanfangspunkt der Aufnahmemaschine ein, und starten Sie den Schnittvorgang des Videokamerasignals durch Drücken der AUTO EDIT-Taste.
- 3 Drücken Sie zum Beenden des Schnittes gleichzeitig die ENTRY- und die OUT-Taste.

Einfügschnitt

- Geben Sie den Schnittanfangs- und den Schnittendpunkt der Aufnahmemaschine ein, und starten Sie den Schnittvorgang mit der AUTO EDIT-Taste. Sie können den Schnittvorgang auch starten, wenn nur der Schnittanfangspunkt eingegeben ist. Drücken Sie in diesem Fall zum Stoppen des Schnittvorgangs gleichzeitig die ENTRY- und die OUT-Taste.
- Beim Anfügschnittbetrieb kann der Schnittendpunkt nicht an der Aufnahmemaschine eingegeben werden.

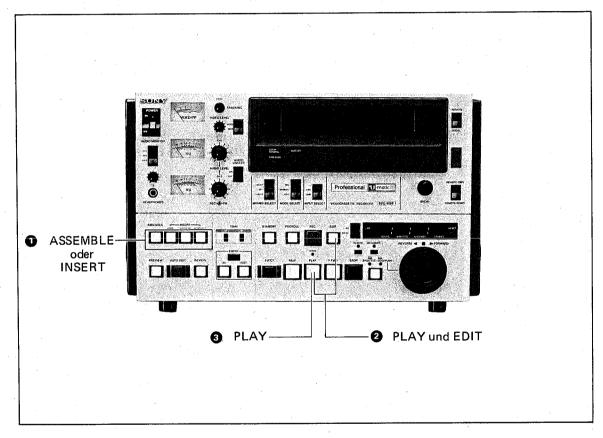
MANUELLES SCHNEIDEN

BETRIEB

- 1 Stellen Sie die Schnittbetriebsart ein: Anfüg- oder Einfügschnitt.
- 2 Stellen Sie die Aufnahme- und die Wiedergabemaschine auf Wiedergabe und drücken Sie am gewünschten Schnittanfangspunkt gleichzeitig die PLAY- und die EDIT-Taste der Aufnahmemaschine.

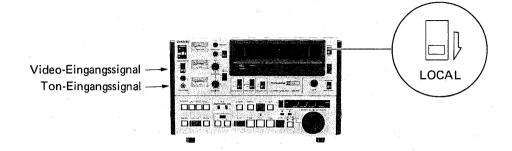
Der Schnittvorgang beginnt dann beim Drücken dieser Tasten.

3 Drücken Sie an der gewünschten Schnittendstelle die PLAY-Taste der Aufnahmemaschine. Der Aufnahmebetrieb wird dann gestoppt, und die Aufnahmemaschine geht in den Wiedergabebetrieb über.



 Wenn der Schnitt aus der Stopstellung des Recorders heraus vorgenommen wurde, so ist das Bild am Schnittanfangspunkt instabil. Um ein vollkommen stabiles Wiedergabebild zu erhalten, muß die Wiedergabe mindestens 10 Sekunden vor dem Schnittanfangspunkt einsetzen.

1-6-2. Schneiden unter Verwerdung eines BVU-800P Video-Cassettenrecorders

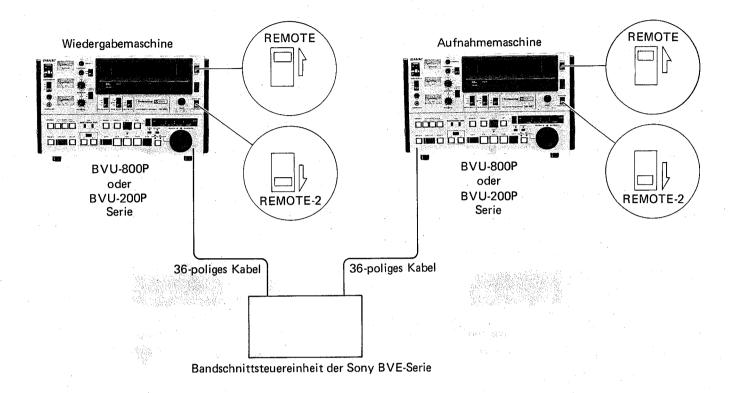


Es kann ein angeschlossens Video- oder Ton-Eingangssignal wie auf den vorhergehenden Seiten beschrieben geschnitten werden.

Hinweise:

- Stellen Sie den REMOTE/LOCAL-Wähler auf LOCAL.
- Es können folgende Funktionen durchgeführt werden: Eingabe der Schnittanfangsund Schnittendpunkte, AUTO EDIT, PREVIEW und TRIM. Bedienen Sie die Video- und Toneingangssignalquellen getrennt.

1-6-3. Schneiden unter Verwendung einer herkommlichen Steuereinheit

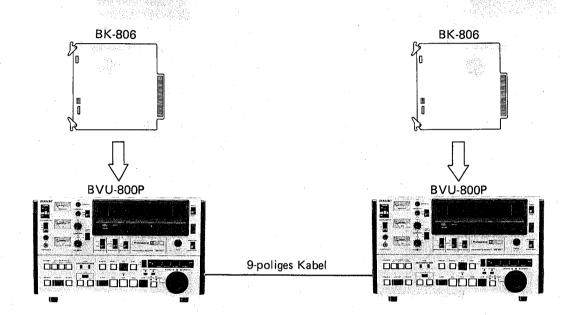


Verwenden Sie die Bedienungselemente der Steuereinheit, um die Aufnahme- und Wiedergabemaschine fernzubedienen.

- Anschlüsse siehe Seite 1-107.
- Falls vorhanden, stellen Sie den REMOTE/LOCAL-Wähler auf REMOTE.
- Stellen Sie den REMOTE-1/REMOTE-2-Wähler auf REMOTE-2.
- Stellen Sie zum Herausnehmen der Cassette den REMOTE/LOCAL-Wähler auf LOCAL, und drücken Sie die EJECT-Taste.
 - Stellen Sie den Wähler zur Fernbedienung danach wieder auf REMOTE.
- Steht der Suchlauf-Knopf der Geräte der BVE-500 Serie auf x2, so läuft das Band des BVU-800P mit 5 facher Normalgeschwindigkeit; steht er auf x1/20, so läuft es mit 1/30 der Normalgeschwindigkeit.
- Wird der BVU-800P durch Drücken einer Taste an einem Gerät der BVE-500 Serie vom Suchlauf- in einen anderen Betrieb umgeschaltet, so halten Sie die Taste so lange gedrückt, bis das Gerät richtig in den gewünschten Betriebszustand geschaltet hat.
- Wird an einem Gerät der BVE-500 Serie eine Taste gedrückt, so leuchtet eventuell
 die entsprechende Kontrollampe am BVU-800P nicht auf. Der korrekte
 Betriebszustand der Aufnahme- und Wiedergabemaschine wird in diesem Fall
 durch die Kontrollampen des BVE-500 angezeigt.
- Beim Anschluß einer Bandschnittsteuereinheit der BVE-500 Serie wird die Vorlaufzeit der Videorecorder an der Bandschnittsteuereinheit auf 3 oder 5 Sekunden eingestellt.
- Beim Anschluß einer Bandschnittsteuereinheit der BVE-500 Serie ist der COLOR FRAMING-Schalter des als Aufnahmemaschine geschalteten BVU-800P auf OFF zu stellen.

1-6-4. Zeitcode-Schnittbetrieb

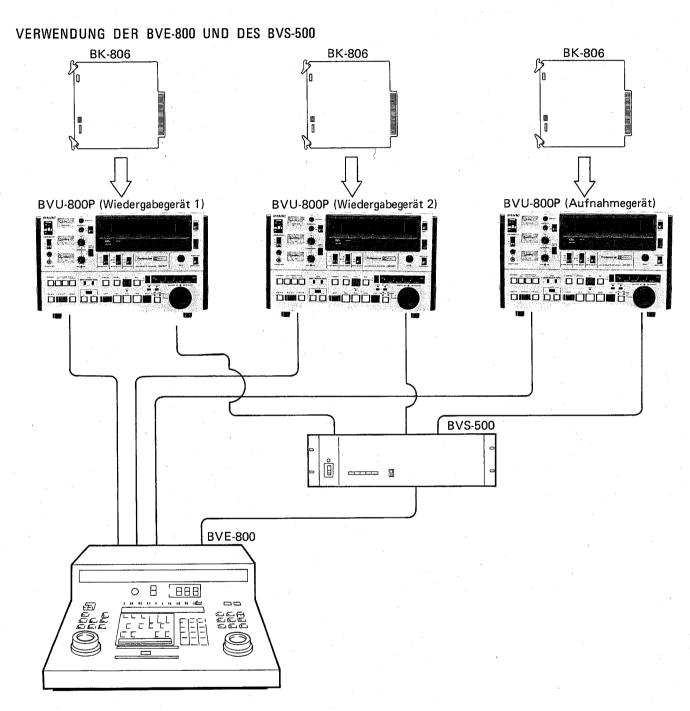
BEI VERWENDUNG ZWEIER BVU-800P VIDEORECORDER



Wird die TC-13 Leiterplatte des BVU-800P gegen die Zeitcode-Generator/Auswerter-Leiterplatte BK-806 ausgetauscht, ist Aufnehmen und Wiedergeben des Zeitcodes sowie Zeitcode-Schnittbetrieb möglich.

Für den Schnittbetrieb brauchen die Zeitcode-Eingänge und Ausgänge nicht angeschlossen zu werden.

Genauere Informationen finden Sie in der Bedienungsanleitung der BK-806.



Wird die automatische Schnitt-Steuereinheit BVE-800 zusammen mit dem Video/Audio-Umschalter BVS-500 verwendet, so sind folgende Funktionen möglich.

- a) A/B Roll-Schnittbetrieb (drei Videorecorder werden gesteuert)
- b) Automatischer separater Tonschnitt
- c) Automatischer Schnittbetrieb mit dem Merfachschnitt-Speicher
- d) Automatischer Suchlauf
- e) Ausgabe der Schnittlisten auf Lochstreifen eines Fernschreibers
- f) Berechnung der Programmlänge
- g) Aufnahme und Wiedergabe von Cue-Signalen

Genauere Informationen finden Sie in den Bedienungsanleitungen der BVE-800 und des BVS-500.

1-7. BANDSCHUTZAUTOMATIK

Um das Band vor einer eventuellen Beschädigung zu bewahren, geht das Gerät automatisch in die Stop- oder Cassettenauswurf-Funktion über, wenn während des Betriebs eine Abnormalität auftritt.

Einige Beispiele:

- Im Schnellvorlauf-, Rücklauf-, Vorlauf-, Stop- und Standbetrieb:
 - Wird eine abnormale Spulendrehung oder Bandspannung festgestellt, so sorgt ein Kontrollsystem für einen Übergang in die Stop-Funktion des Geräts oder für ein Auswerfen der Cassette; ist die abnormale Spulendrehung oder Bandspannung nach 3 Sekunden immer noch vorhanden, so wird der Spulenmotor abgeschaltet, und gleichzeitig wird eine mechanische Bremse aktiviert.
- Beim Ein/Ausfädeln:
 - Wird eine abnormale Spulendrehung oder Bandspannung festgestellt, so sorgt ein Kontrollsystem für einen Übergang in die Stop-Funktion oder für ein Auswerfen der Cassette.
- Falsche Spannung, kaputte LED
 Wird an der B+ Leitung eine falsche Spannung oder eine kaputte LED-Anzeige festgestellt, so sorgt ein Kontrollsystem für einen Übergang in die Stop-Funktion oder ein Auswerfen der Cassette.

1-8. REINIGUNG DER KÖPFE

Verwenden Sie zur Reinigung der Video- und Tonköpfe die Reinigungscassette KC-1C (Sonderzubehör). Das Reinigungsband wird in gleicher Weise wie das Videoband eingefädelt.

- 1) Legen Sie die Reinigungscassette ein, und drücken Sie sofort die PLAY-Taste.
- 2) Lassen Sie das Band etwa 10 Sekunden laufen.
- 3) Werfen Sie die Cassette sofort wieder aus.
- Da sich der Kopf auch in der Stop-Funktion dreht, kommt es zu einer übermäßigen Abnutzung der Köpfe, wenn die Cassette im Gerät gelassen wird.

1-9. FUNKTIONSÜBERPRÜFUNGEN

Führen Sie die folgende Prüfabfolge durch, um alle Bedienungsfunktionen des BVU-800P zu überprüfen.

Überprüfung des Wiedergabebetriebs

Schließen Sie zunächst einen Monitor sowie ein Gerät zur Kontrolle des Tonsignals an, und bereiten Sie eine Cassette vor, auf der ein Video-, ein Tonspur-1- und ein Tonspur-2-Signal aufgezeichnet ist.

Stellung der Wähler

POWER

: ON

REMOTE/LOCAL

: LOCAL

PB/PB/EE

: PB

AUDIO MONITOR: MIX

111/

Auszuführender Bedienungsschritt

Cassette einlegen

F FWD-Taste drücken

STOP-Taste drücken

PLAY-Taste drücken

Suchlauftaste drücken

Suchlauf-Knopf nach rechts drehen

Suchlauf-Knopf in die Mittelstellung zurückdrehen

Suchlauf-Knopf nach links drehen

Suchlauf-Knopf hineindrücken

Überprüfungspunkte

Erscheint ein Wiedergabebild hoher Geschwindigkeit und setzt das Videound Tonsignal nicht aus?

Erscheint ein Standbild?

Erscheint das Wiedergabebild? Ist Tonsignal-1 und Tonsignal-2 hörbar?

Leuchtet die SEARCH-Lampe?

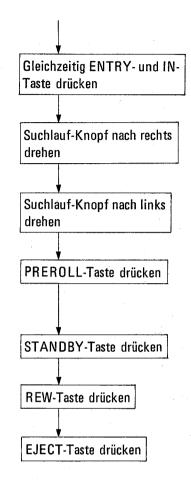
Wird die Wiedergabegeschwindigkeit schneller?

Geht das Gerät in den Schnellvorlauf (x10) über, wenn der Knopf bis zum Klicken gedreht wird? (Beim Übergang in den Schnellvorlauf fährt die Andruckrolle zurück, und die Bildwiedergabe wird unterbrochen oder einen Moment gestört.)
Leuchtet die SHUTTLE-Lampe?

Erscheint ein Standbild?

Erfolgt die Wiedergabe rückwärts? Erhöht sich die Wiedergabegeschwindigkeit, wenn der Knopf weite nach links gedreht wird? Geht das Gerät in den Rücklauf über (×10), wenn der Knopf bis zum Klicken gedreht wird?

Erscheint ein Standbild? Leuchtet die JOG-Lampe?



PB/PB/EE

: PB/EE

Leuchtet die IN-Lampe? Notieren Sie den Zählerstand dieses Punktes (Schnittanfangspunkt).

Erscheint das Wiedergabebild in Vorwärtsrichtung im Jog-Betrieb?

Erscheint das Wiedergabebild in Rückwärtsrichtung im Jog-Betrieb?

Läuft das Band zu einem 10 Sekunden vor der Schnittanfangspunkt liegenden Punkt, und stoppt es dort? Erscheint dann ein Standbild?

Geht die STANDBY-Lampe aus?

Spult das Band zurück? Erscheint das E-zu-E-Bild? Stoppt das Band automatisch am Bandanfang?

Wird die Cassette ausgeworfen?

Überprüfung des Aufnahmebetriebs

Vorbereitungen:

- Besorgen Sie eine unbespielte Cassette.
- Schließen Sie Signale an die VIDEO IN-, AUDIO IN CH-1 und CH-2-Anschlüsse an.
- Schließen Sie einen Monitor sowie ein Gerät zur Kontrolle des Tonsignals an.

Stellung der Wähler

POWER

: ON

REMOTE/LOCAL

: LOCAL

INPUT SELECT PB/PB/EE

: LINE : PB

AUDIO MONITOR: MIX

Auszuführender Bedienungsschritt

Überprüfungspunkte



REW-Taste drücken

PLAY-Taste drücken

Cassette einlegen

REC-Taste drücken und während der Wiedergabe gedrückt halten

INSERT-Tasten drücken (VIDEO, AUDIO CH-1 und CH-2)

Gleichzeitig PLAY- und EDIT-Taste drücken

PLAY-Taste drücken

STOP-Taste drücken

EDIT-Taste drücken

EDIT-Taste drücken

REW-Taste drücken

PLAY-Taste drücken

F FWD-Taste drücken

EJECT-Taste drücken

Beginnt der Aufnahmevorgang?

Spult das Band zurück? (Spulen Sie das Band bis zum Anfang zurück, und stoppen Sie es dort.)

Wird das aufgenommene Material wiedergegeben? Ist Tonsignal-1 und Tonsignal-2 hörbar?

Erscheint das E-zu-E-Bild, solange die REC-Taste gedrückt ist?

Leuchten die VIDEO-, AUDIO CH-1und AUDIO CH-2-Lampen?

Beginnt die manuelle Schnittaufnahme?

Endet die Schnittaufnahme und läuft das Band aber noch im Wiedergabebetrieb weiter?

Erscheint ein Standbild?

Erscheint das an den INSERT-Tasten gewählte E-zu-E-Bild- und Tonsignal?

Verschwindet das E-zu-E-Bild- und Tonsignal, und erscheint ein Stand-

Spult das Band zurück? (Spulen Sie das Band bis zum Anfang der Schnittaufnahme zurück, und stoppen Sie es

Wird die Schnittszene wiedergegeben, und ist Tonsignal-1 und Tonsignal-2 hörbar?

Spult das Band vor, und stoppt es am Bandende? Spult das Band dann automatisch zurück, und stoppt es am Bandanfang?

Wird die Cassette ausgeworfen?

PB/PB/EE

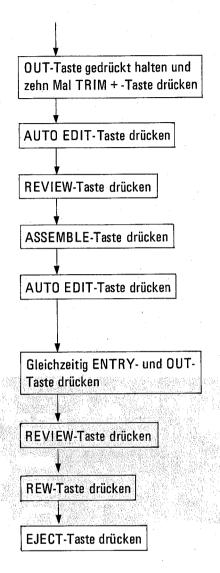
: PB/EE

Überprüfung des Schnittbetriebs

Vorbereitung

- Bereiten Sie eine Cassette vor, auf der ein Video-, ein Tonspur-1- und ein Tonspur-2-Signal aufgezeichnet ist.
- Schließen Sie Signale an den VIDEO IN- und AUDIO IN-Anschlüssen an.
- Schließen Sie einen Monitor so wie ein Gerät zur Kontrolle des Tonsignals an.

Überprüfungspunkte Auszuführende Bedienungsschritte Stellung der Wähler **POWER** : ON Cassette einlegen REMOTE/LOCAL : LOCAL AUDIO MONITOR: MIX PLAY-Taste drücken Erscheint ein Wiedergabebild? Suchlauftaste drücken Erscheint ein Standbild? (Suchlauf-Knopf auf ■) Notieren Sie den Zählerstand dieses Gleichzeitig ENTRY- und IN-Taste Punktes (Schnittanfangspunkt). drücken Mit dem Suchlauf-Knopf einen Schnittendpunkt aufsuchen Notieren Sie den Zählerstand dieses Gleichzeitig ENTRY- und OUT-Punktes (Schnittendpunkt) Taste drücken INSERT-Tasten drücken (VIDEO, AUDIO CH-1 und AUDIO CH-2) Beginnt der Vorschaubetrieb? PREVIEW-Taste drücken IN-Taste drücken Wird der Schnittanfangspunkt am Zeitzähler angezeigt? IN-Taste gedrückt halten und zehn Erniedrigt sich der Zählerstand um zehn Einzelbilder? Mal TRIM - - Taste drücken OUT-Taste drücken der Schnittendpunkt Wird Zeitzähler angezeigt?



Erhöht sich der Zählerstand um zehn Einzelbilder?

Beginnt der automatische Schnitt-vorgang?

Beginnt die Kontrollwiedergabe des Schnittvorgangs?

Leuchtet die ASSEMBLE-Lampe?

Wird der Punkt; an dem die ASSEMBLE-Taste gedrückt wird, als Schnittanfangspunkt eingegeben, und beginnt der automatische Schnittvorgang an diesem Punkt?

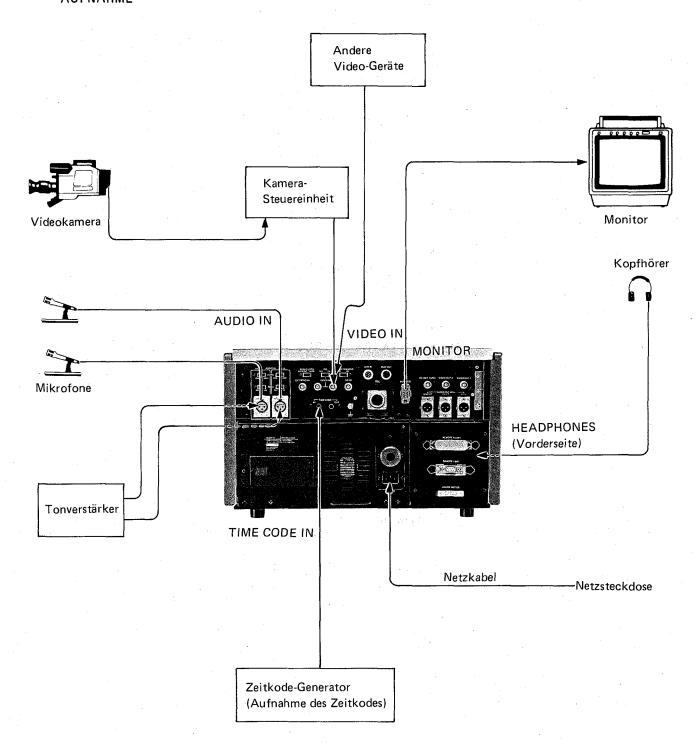
Wird der Punkt als Schnittendpunkt eingegeben, und stoppt der automatische Schnittvorgang an dieser Stelle?

Beginnt die Knotrollwiedergabe des Schnittvorgangs?

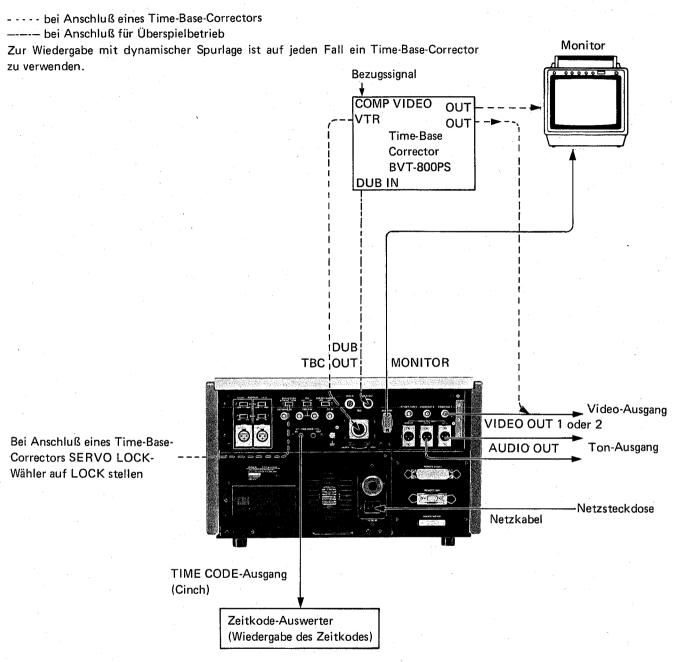
Stoppt das Band am Bandanfang?

Wird die Cassette ausgeworfen?

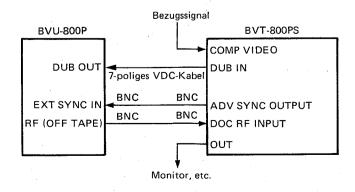
1-10. ANSCHLÜSSE AUFNAHME



WIEDERGABE

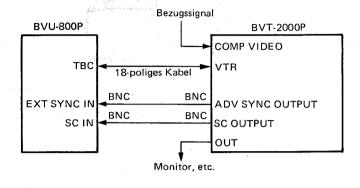


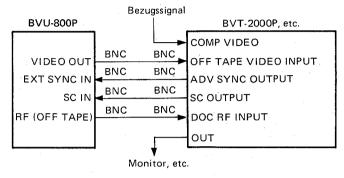
Der BVT-800PS kann ohne Verwendung von einem 18poligen Kabel wie folgt angeschlossen werden.



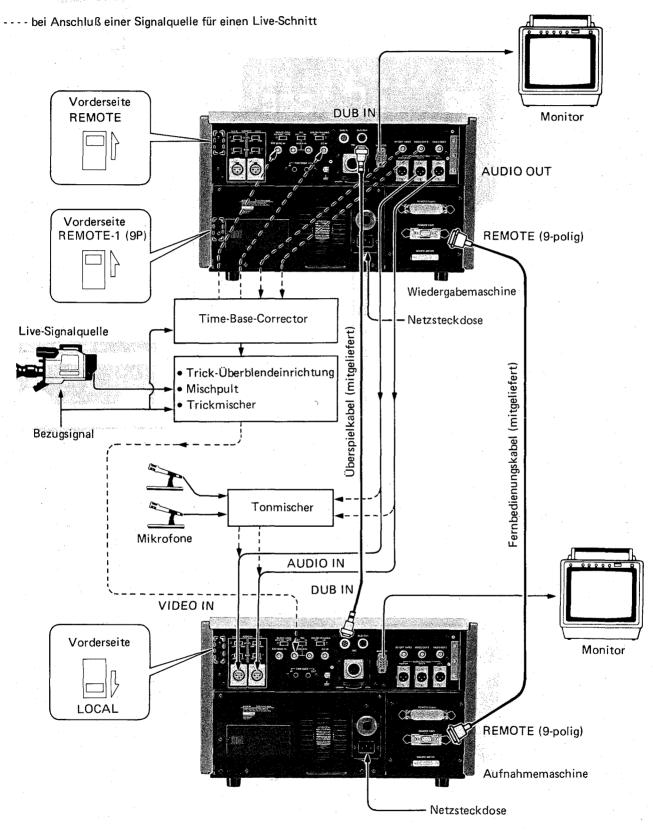
Wenn ein Time-Base-Corrector außer BVT-800PS verwendet werden soll, schließen Sie ihn wie folgt an.

- Zum Anschluß eines BVT-2000P unter Verwendung von einem 18-poligen Kabel.
- Zum Anschluß eines Time-Base-Correctors ohne Verwendung von einem 18-poligen Kabel.

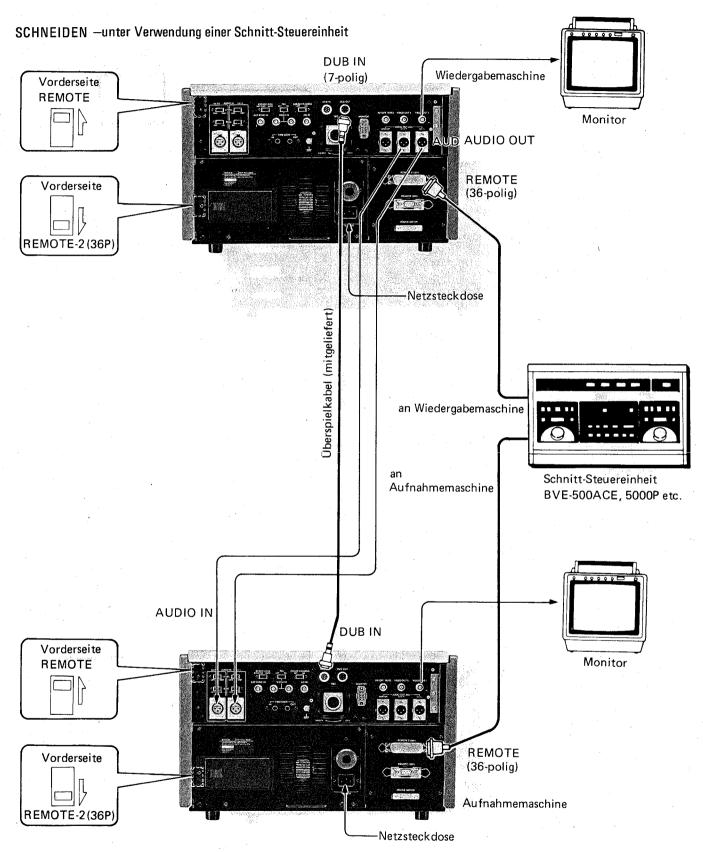




SCHNEIDEN —unter Verwendung von zwei BVU-800P



 Verbinden Sie nicht noch zusätzlich den DUB IN-Anschluß der Wiedergabemaschine mit dem DUB OUT-Anschluß der Aufnahmemaschine.



- Verbinden Sie nicht noch zusätzlich den DUB IN-Anschluß der Wiedergabemaschine mit dem DUB OUT-Anschluß der Aufnahmemaschine.
- Zum Anschluß einer Live-Signalquelle siehe vorhergehende Seite.
- Es kann auch ein anderer Video-Cassettenrecorder, der einen 36-poligen Anschluß besitzt, angeschlossen werden. Es können dann aber nur die am jeweiligen Gerät vorhandenen Bedienungsfunktionen ausgeführt werden.

1-11. TECHNISCHE DATEN

MECHANISCHE BAUTEILE

Gewicht

37 kg

Abmessung (B x H x T)

454 x 283 x 550 mm

Betriebslage

Horizontal

Bandlaufwerk

U-matic System

(3/4-Zoll KCA, KCS Cassetten)

Bandgeschwindigkeit

9,53 cm/Sek.

Gleichlaufschwankungen

±0,25% (DIN)

Aufnahme/Wiedergabespielzeit

max. 60 Min. mit KCA-60 Video-

Cassette

Schnellvorlaufzeit

weniger als 4 Min. mit KCA-60 Video-

Rücklaufzeit

weniger als 2,5 Min. mit KCA-60

Video-Cassette

Suchlaufgeschwindigkeit

Stand, 1/30, 1/10, 1/5, 1/2, 1, 2, 5 und 10 fache Normalgeschwindigkeit in Vorwärts- und Rückwärtsrichtung

JOG:

Stand bis Normalgeschwindigkeit in Vorwärts- und Rückwärtsrichtung

Anschlüsse

AC IN

3-poliger Wechselspannungsanschluß

VIDEO IN x2

BNC-Anschluß

VIDEO OUT x2

BNC-Anschluß

AUDIO IN CH-1/L, CH-2/R

XLR-Buchse

AUDIO OUT MONITOR XLR-Stecker

TIME CODE IN TIME CODE OUT RCA-Cinchbuchse RCA-Cinchbuchse

DUB IN

7-poliger Stecker

DUR OUT

7-polige Buchse

SC IN

BNC-Anschluß

EXT SYNC IN RF (OFF TAPE) BNC-Anschluß

TRC

BNC-Anschluß

CCY-Anschluß

MONITOR OUT

8-poliger Anschluß

REMOTE (36P)

36-poliger Anschluß

REMOTE (9P) **HEADPHONES** RS-422 9-poliger Anschluß

JM-60 Stereo-Klinkenbuchse

Betriebstemperatur

+5°C bis +40°C

Lagertemperature

-20°C bis +60°C

ELEKTRISCHE BAUTEILE

Versorgungsspannung

100/120/220/240V ±10%,

Wechselspannung (einstellbar)

48 bis 64 Hz

Leistungsaufnahme

170W

Schnittbetriebsarten

ASSEMBLE und INSERT (VIDEO,

AUDIO CH-1, AUDIO CH-2), AUTO EDIT, MANUAL EDIT, PREVIEW,

REVIEW, PREROLL, TRIM

VIDEO

Videoaufzeichnungssystem

Luminanzsignal: Frequenzmodulation

Chromasignal: Heruntersetzung des

Farbträgers

Eingang

Ausgang

PAL-FBAS-Signal, negative

Synchronisation

 $1.0 \text{ Vss} + 1.0 \text{ V}, 75 \Omega$, asymmetrisch

PAL-FBAS-Signal, negative

Synchronisation

 $1.0 \text{ Vss} \pm 0.2 \text{ V} 75 \Omega$, asymmetrisch

Kopiereingang

Luminanzsignal:

0.5 Vss

negative Synchronisation, Impedanz: $75\Omega \pm 10\%$

Chromasignal: 0,5 Vss

Impedanz: $75\Omega \pm 10\%$

Kopierausgang

Luminanzsignal:

0,5 Vss

negative Synchronisation, Impedanz: $75\Omega \pm 10\%$

Chromasignal:

0,5 Vss

Impedanz: $75\Omega \pm 10\%$

Horizontalauflösung

370 Zeilen (bei Schwarzweiß)

260 Zeilen (bei Farbe)

Signal-Rauschabstand

besser als 46 dB (bei Schwarzweiß)

besser als 46 dB (bei Farbe)

TONTELL

(MIC) Eingang

 $-60 \text{ dB}, 3 \text{ k}\Omega$, symmetrisch (für Mikrofone mit 600Ω)

(LINE)

+4 dB, $10 \text{ k}\Omega/600\Omega$, symmetrisch

Ausgang (LINE)

+4 dB, niedrige Impedanz, symmetrisch

(600Ω Lastimpedanz möglich)

(HEADPHONES)

(MONITOR)

-46 bis -26 dB, 8Ω, Stereo +4 dB, 600Ω , symmetrisch

Verzerrungen

kleiner als 2,0% (bei 1 kHz-Bezugsignal)

Frequenzgang

50 Hz bis 15 kHz

Signal-Rauschabstand

48 dB (bei einem Klirr von 3%)

TIME CODE-Eingang

 $0 dB \pm 6 dB$, $10 k\Omega$, asymmetrisch

(0 dB = 1,55 Vss Implus)

TIME CODE-Ausgang

0 dB ± 3 dB, niedrige Impedanz,

asymmetrisch

(0 dB = 1,55 Vss Implus)

SC-Eingang SYNC-Eingang 2 Vss ± 1V, 75Ω, asymmetrisch

0,2 Vss bis 5 Vss, negativ, 75Ω , asymmetrisch

(1 Vss ± 0,2V bei Videoeingangssignal)

RF-Ausgang (OFF TAPE)

 $0.5 \text{ Vss} \pm 0.1 \text{V}$, 75Ω , asymmetrisch

Mitgeliefertes Zubehör

 Netzkabel
 1

 Überspielkabel VDC-5 (5m)
 1

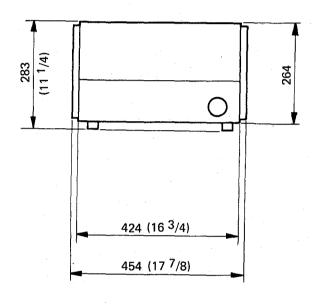
 Fernbedienungkabel (9-polig, 9-polig) RCC-5G
 1

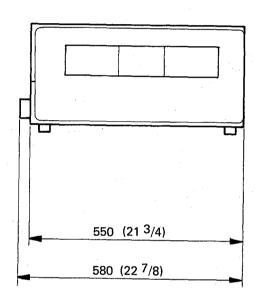
 Service-Anschlußplattine EX-7
 1

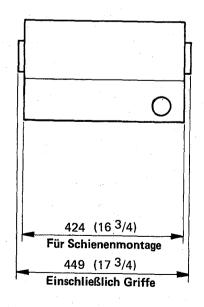
 Bedienungs- und Wartungsanleitung
 1

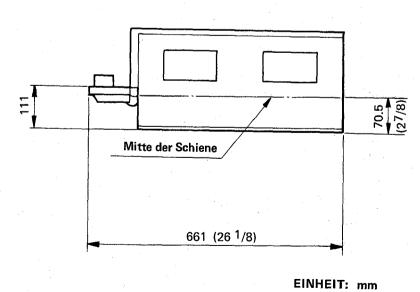
Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

AUSSENANSICHT DES GERÄTS

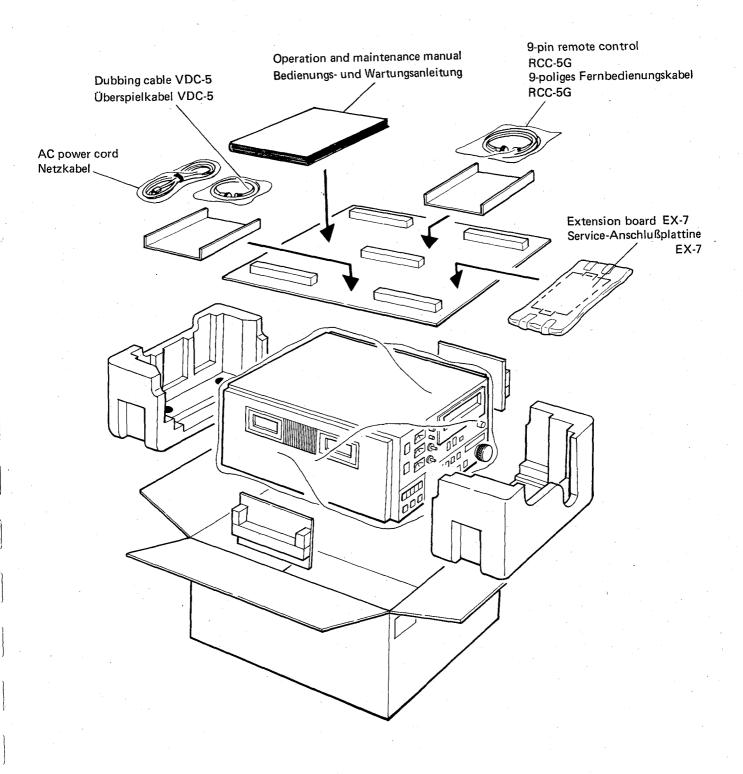








1-12. REPACKING FOR SHIPMENT/WIEDERVERPACKUNG FÜR TRANSPORTZWECKE



SECTION 2 INSTALLATION

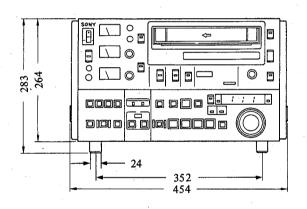
Be sure to install the BVU-800P at the installation space under the required operational environment as regulated below. It will assure the BVU-800P's superior performance while maintaining the excellent serviceability and accessibility.

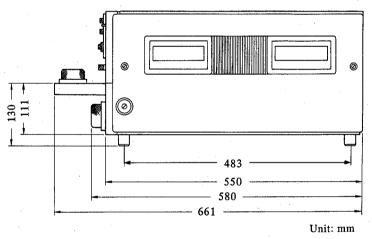
2-1. OPERATIONAL ENVIRONMENT

- Areas where the BVU-800P will be exposed to direct sunlight, or any other strong direct lights.
- Avoid installation in dusty areas or areas where it is subject to vibration.
- Avoid areas where high electric or magnetic fields are to be found.
- Good air circulation is essential to prevent internal heat buildup.
 Place the set in locations with sufficient air circulation. Do not block the ventilation holes on the cabinet and the rear panel.
- Avoid installation in a location near heat sources. The set should only be operated in a temperature range from 5°C to 40°C.

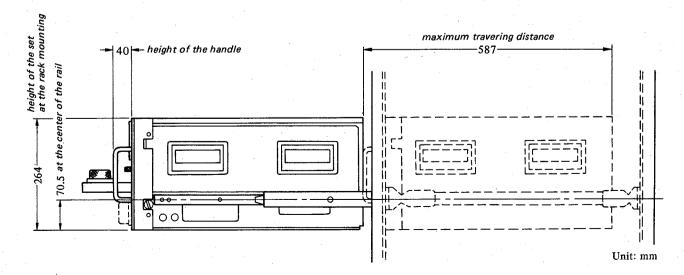
2-2. INSTALLATION SPACE

- The outer dimensions of the set are shown in the figure below.
- The rear side of the set must be at least 40 cm away from the wall for ventilation and maintenance.
- When the set is operated on the desk or similar condition, assure that the vertical clearance above the BVU-800P is at least 40 cm to provide the accessability to the printed circuit boards and other mechanical parts. But note that it is not necessary to provide the space when the set is mounted in a rack since the printed circuit boards can be repaired after the set is pulled out.



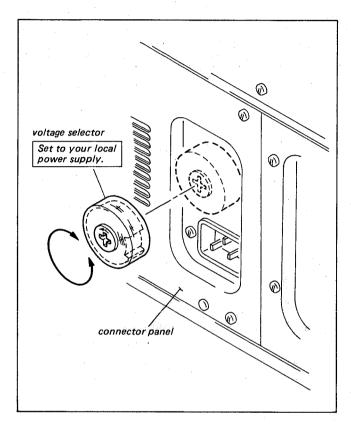


When the BVU-800P is mounted in a rack.



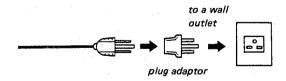
2-3. OPERATING VOLTAGE

The BVU-800P's power line voltage can be set to 100 V, 120 V, 220 V or 240 V for use anywhere in the world. Before connecting the set to the power source, check that the operating voltage of your set is identical to that of your local power supply. The BVU-800P can operate on either 50 Hz or 60 Hz.

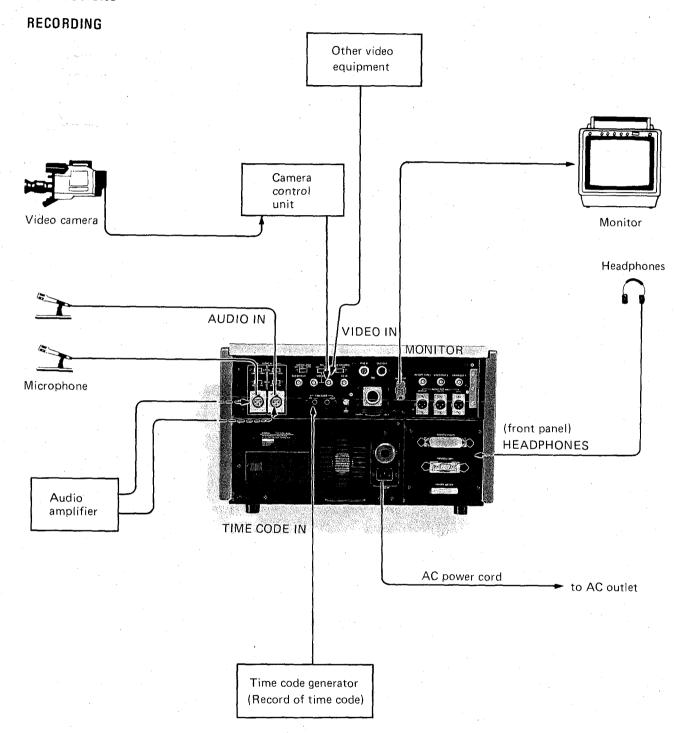


Note on AC power connection

To use the set in other countries on 220 or 240 V ac, set the VOLTAGE SELECTOR to 220 or 240 V and use a commercially available plug adaptor as illustrated.

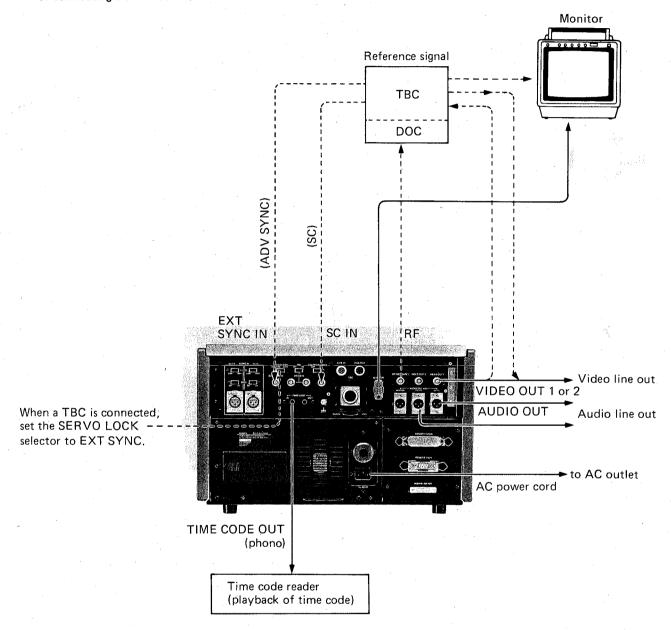


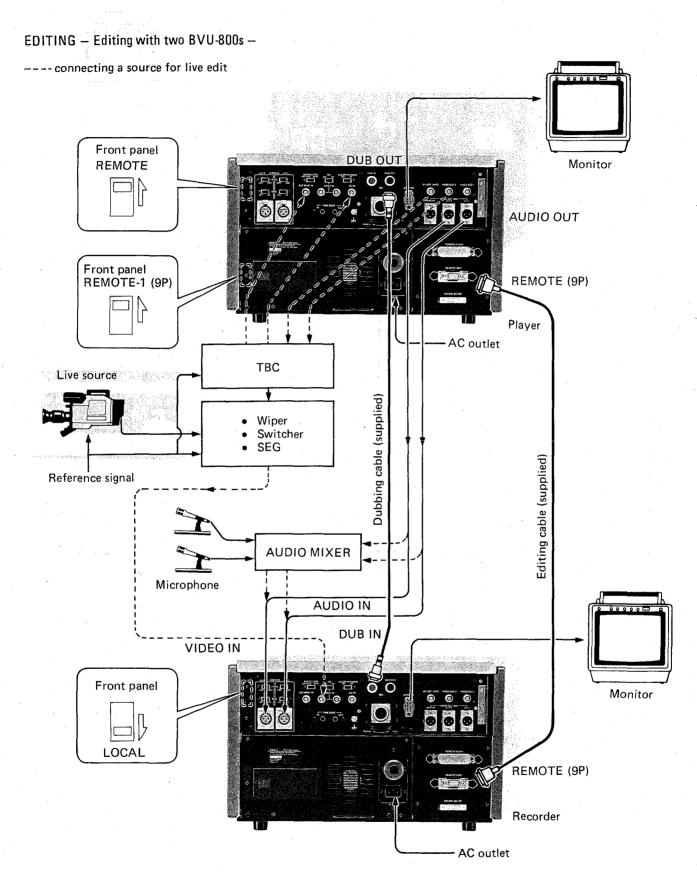
2-4. CONNECTIONS



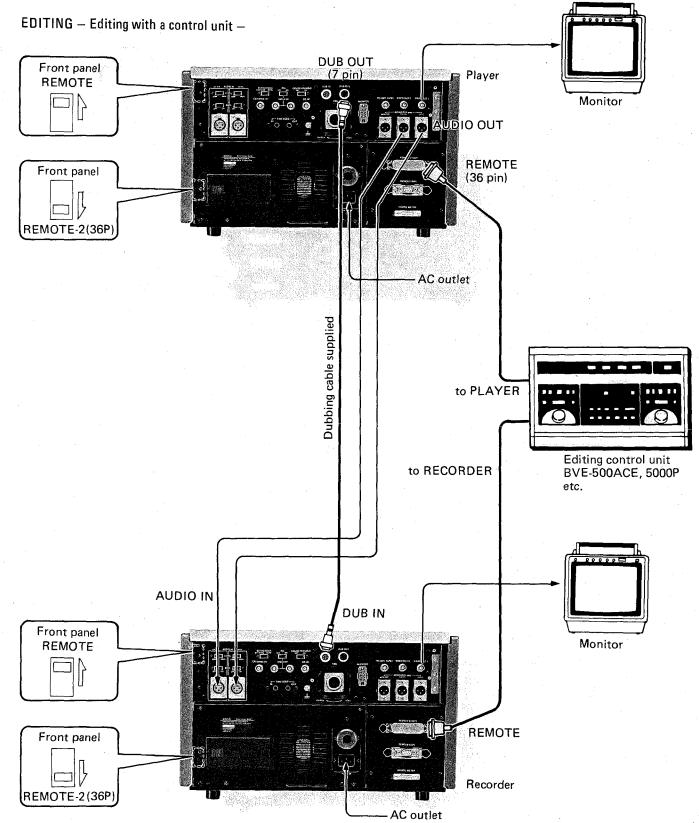
PLAYBACK

--- for connecting a time base corrector





 Do not make simultaneous (parallel) connections with the DUB IN connector on the player and DUB OUT connector on the recorder.



- Do not make simultaneous (parallel) connections with the DUB IN connector on the player and the DUB OUT connector on the recorder.
- For the live source connection, see the previous pages,
- The video cassette recorder with 36 pin connector can be connected other than the BVU-800P, but the function is limited according to the function of the machine.

2-5. INPUT/OUTPUT SIGNAL OF THE CONNECTOR

Input and output signal of the main connectors on the connector panel are follows:

INPUT

VIDEO IN : $1.0 \text{ Vp-p}^{+1.0}_{-0.5} \text{ V}$, sync negative, 75 ohms,

unbalanced

DUBBING IN : Luminance signal: 0.5 Vp-p, sync negative,

impedance: $75\Omega \pm 10\%$

Chroma signal: 0.5 Vp-p,

impedance: $75\Omega \pm 10\%$

EXT. SYNC IN : $0.2 \text{ Vp-p} \sim 5 \text{ Vp-p}$, negative, 75 ohms,

unbalanced

(1 Vp-p ±0.2 V with VIDEO input)

SC IN AUDIO IN 2 Vp-p ±1 V, 75 ohms, unbalanced

: MIC: -60 dB, 3 k-ohms, balanced (matches 600 ohm microphone)

LINE: +4 dB, 10 k-ohms/600 ohms,

balanced

TIME CODE IN : 0 dB ±6 dB, 10 k-ohms, unbalanced

(0 dB = 1.55 Vp-p pulse)

OUTPUT

VIDEO OUT: 1.0 Vp-p, ±0.2 V, sync negative, 75 ohms,

unbalanced

LINE:

DUBBING OUT: Luminance signal: 0.5 Vp-p, sync negative,

impedance: $75\Omega \pm 10\%$

Chroma signal: 0.5 Vp-p,

impedance: $75\Omega \pm 10\%$

RF OUT (OFF TAPE) AUDIO OUT

(OFF TAPE)

0.5 Vp-p ±0.1 V, 75 ohms, unbalanced

+4 dB, low impedance, balanced (600 ohm load

permissible)

MONITOR:

+4 dB, 600 ohm load,

balanced

HEADPHONES: $-46 \text{ dB} \sim -26 \text{ dB}$,

8 ohms load, binaural

TIME CODE OUT: 0 dB ±3 dB, low impedance, unbalanced

(0 dB = 1.55 Vp-p pulse)

REMOTE CONTROL REMOTE 2 (36P)

			· ·
Pin	I/O Signal	Pin	I/O Signal
1	UNREG 5 V	17	L-PAUSE STATUS 1 OUT
2	L-FF COMMAND IN	18	L-REC STATUS OUT
<u> </u>	(Pulse width is more than 5 msec.)	19	L-INSERT STATUS OUT
3	L-FWD COMMAND IN (Pulse width is more than 5 msec.)	20	L-VIDEO INSERT IN
4	L-REW COMMAND IN		L-AUDIO 1 INSERT IN
4	(Pulse width is more than 5 msec.)	22	L-AUDIO 2 INSERT IN
5	L-EJECT COMMAND IN (Pulse width is more than 5 msec.)	23	L-REVERSE COMMAND IN
<u></u>	L-STOP COMMAND IN	24	SPEED A IN
6	(Pulse width is more than 5 msec.)	25	SPEED B IN
7	L-PAUSE COMMAND IN (Pulse width is more than 5 msec.)	26	L-CTL PULSE OUT (Pulse width is 470 msec.)
8	L-REC COMMAND IN	27	L-TACH OUT
	(Pulse width is more than 5 msec.)	28	L-CAPSTAN OUT
9	L-CUT IN COMMAND IN (Pulse width is more than 5 msec.)	29	SYNCHRONIZE IN
	L-EDIT COMMAND IN	30	NC
10	(Pulse width is more than 5 msec.)	31	H-NORMAL FWD IN
11	L-CUT OUT COMMAND IN (Pulse width is more than 5 msec.)	32	L-PAUSE STATUS 2 OUT
12	L-FF STATUS OUT	33	L-SEARCH COMMAND IN ("L" level during shuttle or jog mode.)
13	L-FWD STATUS OUT	34	NC
14	L-REW STATUS OUT	35	GND
15	L-STANDBY STATUS OUT	36	NC
16	L-STOP STATUS OUT		

TBC

Pin	I/O Signal
A	EXT SYNC IN (X)
В	GND
1	VIDEO OUT (X)
2	VIDEO OUT (G)
3	NC
4	NC
5	NC
6	DOC PULSE OUT (X)
7	DOC PULSE OUT (G)
8	H-PLAY STS OUT
9	DUB C OUT (X)
10	NC
11	NC
12	NC
13	DUB Y OUT (X)
14	DUB Y OUT (G)
15	NC
16	NC

2-6. CONNECTION CONNECTOR

When external cables are connected to the various connectors on the BVU-800P connector panel during the installation or the maintenance, hardwares as stated below or the equivalents must be used.

Panel Indication	Connection Connector
VIDEO IN EXT. SYNC IN SC IN VIDEO OUT 1 VIDEO OUT 2 RF (OFF TAPE)	1-560-069-11 PLUG, BNC, MALE
DUB IN	1-561-055-00 PLUG, 7P, FEMALE
DUB OUT	1-508-948-00 PLUG, 7P, MALE
AUDIO IN	1-508-084-00 CONNECTOR, 3P, MALE
AUDIO OUT	1-508-083-00 CONNECTOR, 3P, FEMALE
TIME CODE	1-506-311-00 PLUG, PIN
MONITOR	1-506-161-00 CONNECTOR, 8P, MALE
ТВС	1-508-495-00 PLUG, 9P, MALE
REMOTE 2 (36P)	1-508-852-00 CONNECTOR, 36P, MALE
REMOTE 1 (9P)	1-560-651-00 PLUG, 9P (M) AND 1-561-749-00 JUNCTION SHELL, 9P

2-7. SELECT SWITCH SETTING

Along with the select switches on the control panel and the connector panel, the switches listed below are on the circuit boards. The functions of these switches on the circuit boards are described and the switches must be used according to systems and conditions.

SY-37 board

(i) SYNCHRONIZE sw. (Ref. No., S2-1)

In PREVIEW or AUTO EDIT mode, recorder will perform synchronization to the player by SEARCH mode between PREROLL-point and IN-point (VTR synchronization).

This switch select either to use this function or not. Because synchronization will be performed by recorder, this switch of the player does not be effected.

ON: Perform synchronization.

PREROLL TIME will be adjusted to 10 seconds automatically and PREROLL TIME switch will be untilified.

OFF: No synchronization.

When the set is shipped, the SYNCHRONIZE sw is set to the OFF position.

(ii) PREROLL TIME sw. (Ref. No., S2-3)

Selects 5 seconds or 10 seconds for the preroll time at the editing.

ON: 5 seconds

OFF: 10 seconds

When the set is shipped, the PREROLL TIME switch is set to the OFF position.

(iii) SEARCH DIAL sw. (Ref. No., S2-2)

There are two ways to set up the SHUTTLE mode from the PLAY mode.

- SEARCH dial is turned directly without pressing the SHUTTLE button in the PLAY mode.
- (2) The SHUTTLE button is pressed in the PLAY mode.

The SEARCH DIAL switch selects above two system (1) or (2). ON: system (1)

OFF: system (2)

When the set is shipped, the SEARCH DIAL switch is set to the ON position. When the BVU-800P is used as the playback machine (such as on air), it is recommended to use the second method (the switch is in the OFF position) to avoid accidental mode switching.

(iv) EIA/CCIR select sw. (Ref. No., S5)

Selects for EIA use or CCIR use for the TIMER DISPLAY.

For EIA use: Switch 1 is only OFF position, the other switches are ON position.

For CCIR use: All the switches are ON position.

When the set is shipped, the EIA/CCIR select switch is set to the CCIR position.

(v) KEY select sw. (Ref. No., S3)

The function of BVU-800P can be controlled by either control panel of unit or optional control panel (BK801). However, to connect both control panel two of 40 pin flat cable connectors were equipped on SY-37 board.

This switch select one function control panel from above two. This switch positioned to front: CN31 is selected.

This switch positioned to back: CN32 is selected.

When the set is shipped, the KEY switch is set to the CN31 is selected position.

SY-37 board

(vi) CTL Indicator (Time counter) function select sw. during time code mode. (Ref. No., S5-3)

Selects CTL data display or Time Code data display in Time Code mode.

- (1) When BVU-800P is used in Time Code mode or Auto mode with TC-20 board or optional Time Code Generator/ Reader (BK806), the CTL data is indicated on the indicator by pressing the LAP button on the function of BVU-800P twice in 0.6 seconds. Still the Time Code data controls the VTR.
- (2) In the above mode (CTL data display mode) when the LAP button is pressed twice again in 0.6 seconds, the indicator will be changed to indicate the Time Code data. CTL data display can be changed to time code display by selecting from player Local mode to Remote mode and by pressing RECORDER select button on the front panel of the BVU-800P.
- (3) When editing a recorded tape that has no Time Code signal recording, the Time Code data is reset by pressing the RESET button.
- (4) When the tape is ejected, the Time Code data and the CTL data are not reset automatically. Press the RESET button and these data will be reset.

(5) In the case of Data communication between two sets (9 pin, RS422), the indicator of Player BVU-800P machine remains same as indication, before ROMs update.

For CTL Indicator in Time Code mode, set this switch to OFF.

Except above mode, set this switch to ON.

When the set is shipped, this switch is set to the ON position.

(vii) AUDIO/VIDEO Edit Timing Difference Compensation sw. (Ref. No., S5-4)

This switch can compensates for the timing difference of editing points of Audio and Video in Auto editing mode or Assembly editing mode. Also this switch is controlled by ROMs of version 8.

In order to compensate for the timing difference of editing point, perform the following procedure.

(1) Select the "Edit command timing switch" which is installed on optional unit such as BVE-800 and BVE-3000 etc.

Select to "-3" frames.

(2) Conditions

- When the editor is used to editing, use the editor that is equipped with "Edit command timing switch", such as BVE-800, BVE-1000, BVE-3000A and BVE-5000.
- 2. Controlled by 9 pin (RS422).
- Audio cut-in point will have double recording in 2 frame piriod.

To compensate for the timing difference of Audio and Video, set this switch to OFF.

If not compensating, set this switch to ON.

When the set is shipped, this switch is set to the ON position.

(viii) DTR-2000 Select sw. (Ref. No., S5-5)

When connecting with DTR-2000 and assembly editing is done, set this switch to OFF.

(The previous recorded time codes are read and the relative next time codes is recorded at the editing point so that the consecutive time codes are recorded on the tape.)

When remote control (BVE-800 or etc.) other than DTR-2000 is connected, set this switch to ON.

When the set is shipped, this switch is set to the ON position.

MD-12 board

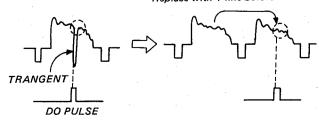
(i) HIGH FREQUENCY ON/OFF sw. (Ref. No., S1) This switch is only used for electrical alignment. When the set is shipped, the HIGH FREQUENCY ON/OFF switch is set to the OFF position.

• YD-9 board (Serial No. 11491 and higher)

(i) VIDEO DROP OUT DETECTOR ENABLE sw. (Ref. No., S1) When this switch set to on, "Video Drop Out Detector" which detect negative trangent noise under pedestal level, trigger D.O.C. circuit to replace the noise part with one line before. If this compensation is needed such as microwave transmission without TBC, this switch should be ON.

Factory Set: OFF

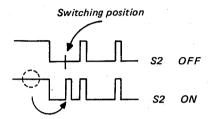
Replace with 1 line before



(ii) SWITCHING NOISE SUPRESSOR ENABLE sw. (Ref. No., S2) This switch enables "Switching Noise Supressor". But, in case following conditioned tape (abnormally recorded), will be reproduced, this switch should be set to off.

Condition: Reason: Head switching points located in the vertical Sync. Normally, Switching Noise Supressor detect switching points and trigger DOC circuit to replace a part with one line before. However, if switching point located in the 1st line in vertical sync, switching noise part which is sync tip level, will be replaced with pedestal level, and causing positive pulse will be inserted in vertical sync as shown below.

Factory Set: ON

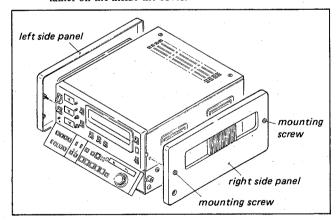


2-8. RACK MOUNTING

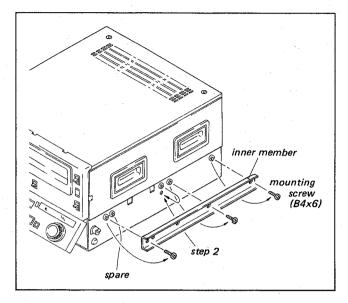
The BVU-800P can be mounted in the 19-inch standard rack. It is recommended to use the PACK MOUNT KIT, BK805, optional part (including the slide rails and the handle brackets) or the following ACCURIDE'S slide rail.

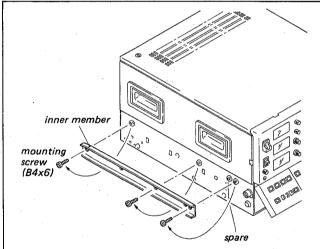
RACK-MOUNT SLIDES MODEL 305 SLIDE LENGTH 22 INCH

- Loosen two mounting screws on the right and the left side panels.
 - Mounting screws will not be detached since it uses a retainer on the inside the cover.

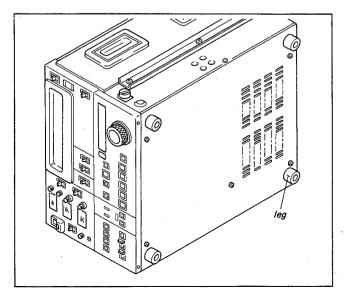


- 2. Remove a mounting screw on the chassis (R) as shown in figure, and thread the mounting screw to a lower hole.
- 3. Remove the each four mounting screws on the (R) chassis and the (L) chassis.
- 4. Attach the inner members of the slide rails to the (R) chassis and the (L) chassis with the screws removed in step (3).
 - Length of the screws used for the attachment is limited. If the screws supplied with the chassis are lost, a screw 6 mm in length (B4x6) must be used.
 - The inner member must be fixed at three points with the screws.

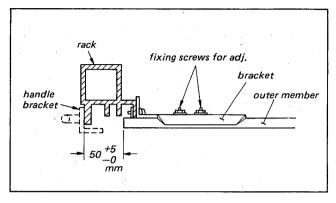




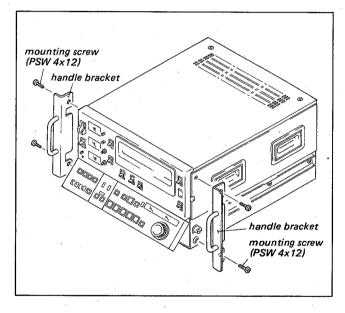
- 5. Remove four legs located under the set.
 - If the set is mounted in the rack without removing the legs.
 It will contact the lower set and the upper set cannot be pulled out from the rack.



6. Attach the outer member bracket of the slide rail to the rack and position from the edge of the slide rail to the outside of the rack so that the position satisfies to the specified value.

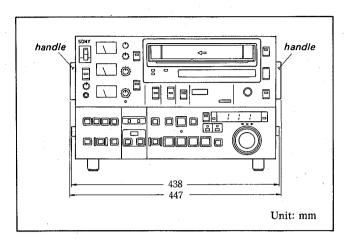


7. Attach the handle brackets.



NOTE:

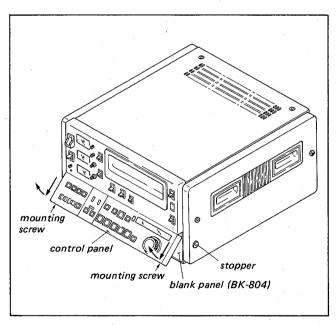
- Six sets of the BVU-800P can be mounted on the 19-inch standard rack.
 - When the several sets are mounted on the rack, it is recommended to install the fan for ventilation. Good air circulation is essential to prevent internal heat buildup in the rack. 5°C to 40°C environmental condition must be met throughout all units.
- 2. Be sure to stabilize the rack to the floor to avoid the accidents when the BVU-800P is pulled out.
- Dimension without side panels are shown in figure.
 If the rack front width is narrower than the set width, the set must be mounted after the handles on the right and left made been removed.



2-9. CONTROL PANEL UNIT REMOVAL

When the control panel unit is removed to be used as the remote control unit, perform the following steps.

 Loosen the control panel stopper on the right and the left side panels. Open the control panel.



- Remove two mounting screws as shown in figure and move the control panel unit in the direction shown by the arrows for removal.
- 3. Remove the flat cable on the rear side of the control panel.
- 4. Connect the optional flat cable (5 m), BK802. (Refer to sec. 2-11.)
- 5. Attach the optional blank panel, BK804.

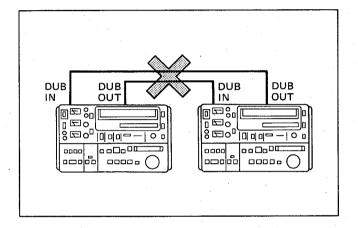
2-10. SUPPLIED ACCESSORY

Supplied BVU-800P accessories are as follows.

- AC Power Cord
- 2. Dubbing Cable (VDC-5)

This cable is utilized when the tape to tape editing and dubbing are used with using the dubbing cable. (length: 5 m)

Only the video signal can be transmitted by this cable and the audio signal does not. For the audio signals the different cables are required.



3. 9 Pin Remote Control Cable

This cable is used for the remote control from one BVU-800 as a recorder to the other BVU-800 as a player when the two sets of the BVU-800 are used for the tape to tape editing and dubbing.

4. Extension Board (EX-7)

The BVU-800P main circuit board is a plug-in type which is easy to remove of install. Extension board, EX-7 is used for check and maintenance of the main board.

It is more than adequate with supplied extension board.

However, if it is required to have additional boards, it can be obtained through service organization.

2-11. OPTIONAL ACCESSORY

The followings are provided as the optional accessory. The suitable accessory should be used for each system.

1. Control Panel (BK801)

When the BVU-800P is operated from the remote place, the function control panel of the BVU-800P can be separated and functioned as the remote controller. And also the other remote controller (BK801) is provided as the optional accessory. The BK801 includes the control panel and 40P flat cable which connects the control panel to the BVU-800P.

2. 40P Flat Cable (BK 802)

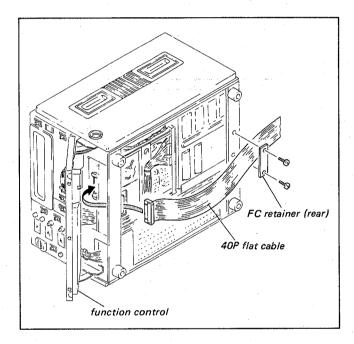
40P flat cable is used for connecting the control panel to the BVU-800P, when the control panel unit is separated from the BVU-800P and used as the remote controller.

This cable length is 5 m, however in case that the different cable is required, the following cable are recommended.

Produced by 3M
3517 Series
#28 AWG Stranded
Jacketed/Shielded Flat Cable
.050" (1.27 mm) Center Spacing
Number of Conductors: 40

The flat cable can be extended up to maximum 10 m (in no interference condition such as an electrical noise).

- 1. Open the function control panel.
- 2. Remove the bottom plate and FC retainer (rear).
- 3. Install the 40P flat cable as shown in figure.



- Control Panel Case (BK803)
 The BK803 control panel case is the optional unit which houses the remote control panel dismantled from the BVU-800P.
- Blank Panel (BK804)
 The BK804 blank panel is the plate which covers the block of BVU-800P resulted in empty by removing the control panel.
- Rack Mount Kit (BK805)
 The BK805 rack mount kit is used for mounting the BVU-800P on the 19-inch standard rack. This mounting kit consists of two slide-rails and two handle-brackets.
- Function Panel Rear Cover (BK811)
 The BK811 function panel rear cover is the plate which covers the rear side of the function control when the control panel is tilted.
- 7. 9-Pin Remote Control Cable (RCC-5G, RCC-10G, RCC-30G)
 Three kinds of 9-pin remote control cable are provided.

Type Length RCC-5G: 5 m RCC-10G: 10 m RCC-30G: 30 m

This remote cable connects the 9-pin remote connector on the connector panel to the BVU-800P.

NOTE: The remote cable can be extended up to 1200 m.

SECTION 3 TECHNICAL INFORMATION

3-1. SPECIFICATIONS

GENERAL:

MECHANICAL:

37 kg (81 lb 9 oz) Weight:

454 x 283 x 550 mm (17 7/8 x Dimensions:

 $11 \frac{1}{4} \times 21 \frac{3}{4} \text{ inches} (w/h/d)$

Tape transport mechanism: U-matic system (3/4 inch cas-

settes)

Tape speed: 9.53 cm/s Wow/flutter: ±0,25% (DIN)

Record/playback time: Maximum of 60 min. with type

KCA-60 video cassette

Fast forward time: Less than 4 min. with

KCA-60 video cassette

Rewind time: Less than 2.5 min. with type

KCA-60 video cassette

Search speed:

Still, 1/30, 1/10, 1/5, 1/2, 1, 2, 5, and 10 times normal in forward and reverse direction

Still to 1 in forward and reverse

direction

CONNECTORS:

3-pin AC connector AC IN:

VIDEO IN x2: BNC connectors BNC connectors

VIDEO OUT x2: AUDIO IN CH-1/CH-2: XLR female connectors

AUDIO OUT CH-1/CH-2: XLR male connectors

AUDIO OUT MONITOR: XLR male connectors

TIME CODE IN: RCA phono jack

TIME CODE OUT: RCA phono jack

DUB IN: 7-pin male connector

DUB OUT: 7-pin female connector

> SC IN: BNC connector

BNC connector EXT SYNC IN:

RF OUT (OFF TAPE): BNC connector

CCY connector TBC:

MONITOR OUT: 8-pin connector

REMOTE (36-p): 36-pin connector

RS-422 9-pin connector REMOTE (9-p):

HEADPHONES: JM-60 headphones binaural jack

Operating temperature: +5°C to +40°C

Storage temperature: -20°C to +60°C

ELECTRICAL:

AC $100/120/220/240 \text{ V} \pm 10\%$ (Se-Power requirements:

lectable) 48 to 64 Hz

Power consumption: 170W

Editing functions: ASSEMBLE and INSERT (VIDEO,

AUDIO CH-1, AUDIO CH-2) AUTO EDIT, MANUAL EDIT PREVIEW, REVIEW, PREROLL,

TRIM

VIDEO:

Luminance: FM Video recording system:

> Chroma: SC low-range conver-

PAL composite video, sync neg-

ative $1.0 \text{ Vp-p} ^{+1.0}_{-0.5} \text{ V } 75\Omega$, unbal-

anced

PAL composite video, sync neg-Output:

ative 1.0 Vp-p ± 0.2 V, 75 Ω , unbal-

anced

Luminance signal: 0.5 Vp-p **Dubbing input:**

Sync negative,

Impedance: $75\Omega \pm 10\%$ Chroma signal: 0.5 Vp-p

Impedance: $75\Omega \pm 10\%$

Luminance signal: 0.5 Vp-p **Dubbing output:**

Sync negative,

Impedance: $75\Omega \pm 10\%$ Chroma signal: 0.5 Vp-p Impedance: 75Ω ±10%

370 lines (monochrome mode) Horizontal resolution:

260 lines (color mode)

More than 46 dB (monochrome Signal to noise ratio:

mode)

More than 46 dB (color mode)

AUDIO:

(MIC) Input:

> -60 dB, 3 k-ohms, balanced (matches 600 ohm microphones)

+4 dB, 10 k-ohms/600 ohms,

balanced

(LINE) Output:

+4 dB, low impedance, balanced

(600 ohm load permissible)

(HEADPHONES)

-46 to -26 dB, 8 ohms load,

binaural (MONITOR)

+4 dB, 600 ohm load, balanced

Less than 2.0% (1 kHz reference Distortion:

level)

50 Hz to 15 kHz Frequency response:

48 dB (at 3% distortion level) Signal to noise ratio:

TIME CODE

Input:

Output:

0 dB ±6 dB, 10 k-ohms, unbalanced (0 dB = 1.55 Vp-p pulse)

0 dB ±3 dB, low impedance, un-

balanced (0 dB = 1.55 Vp-p pulse)

SC

Input: 2 Vp-p ±1 V, 75 ohms, unbalanced

SYNC

0.2 Vp-p to 5 Vp-p, negative,

75 ohms, unbalanced (1 Vp-p ±0.2 V with VIDEO input)

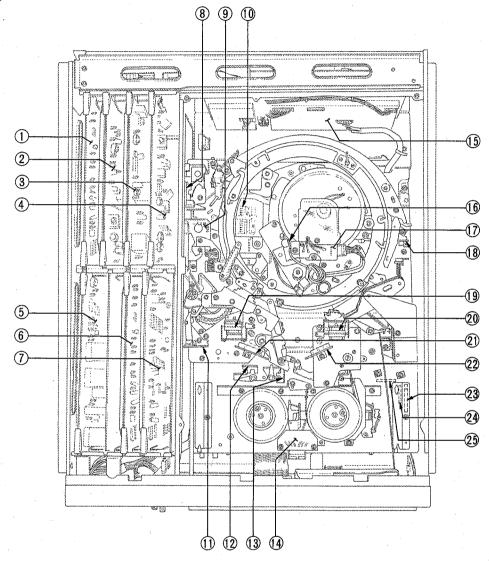
RF output (OFF TAPE):

 $0.5 \text{ Vp-p} \pm 0.1 \text{ V}, 75 \text{ ohms},$ unbalanced

3-2. LOCATION OF MAIN PARTS

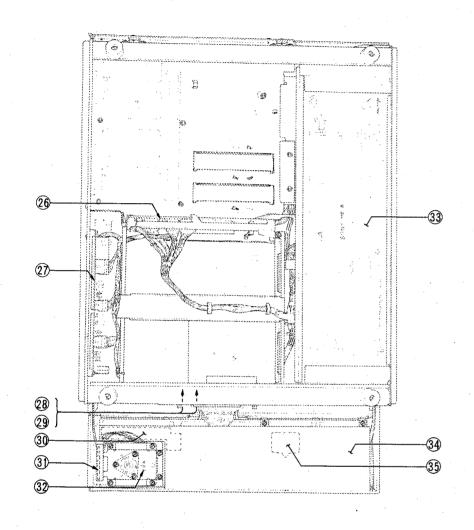
3-2-1. **Location of the Printed Circuit Boards**

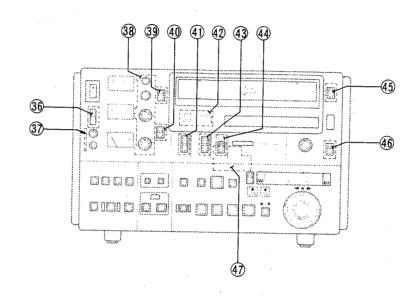
< TOP VIEW >

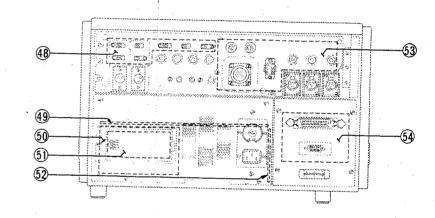


- TC-13-1 BOARD
- CD-14 BOARD
- YD-9 BOARD
- MD-12 BOARD
- **AU-13 BOARD**
- **RS-3 BOARD**
- SV-52 BOARD
- EK-3 BOARD
- 9 TM-8 BOARD
- (10) TM-4 BOARD (1) EK-2 (A) BOARD
- (12) PC-7 (B) BOARD
- (13) PC-7 (A) BOARD

- (14) EM-1 BOARD
- RP-5-1 BOARD
- TC-12 BOARD
- (17) SR-14 BOARD
- (18) EK-2 (B) BOARD
- TAKE-UP SIDE TENSION DETECTOR
- 20) SUPPLY SIDE TENSION DETECTOR
- 21) PC-12 BOARD
- 22 PC-8 BOARD
- 23 CC-9 BOARD (with Cassette-up Compartment)
- 24 CC-11 BOARD (with Cassette-up Compartment)
- 25 CC-10 BOARD (with Cassette-up Compartment)







- 26 MB-9 BOARD
 27 SY-71 BOARD
 28 SY-36 BOARD
 29 SY-37/37A BOARD
 30 DP-9 BOARD
 31 PC-9 BOARD
 32 PC-14 BOARD
 33 MB-8 BOARD
 34 KY-9 BOARD
 35 KY-14 BOARD

- 36 AO-2 BOARD37 HP-5 BOARD
- 38 MF-1 BOARD
- 39 LV-1 BOARD
- MS-5 (A) BOARD
- MS-5 (B) BOARD
- WL-1 BOARD
- MS-5 (C) BOARD
- 44 MS-5 (D) BOARD
- 45 MS-5 (E) BOARD 46 PR-33 BOARD 47 RE-3 BOARD

- 48 SA-9 BOARD
 - 49 PD-14 BOARD
 - 50 PW-79 BOARD
 - 5) FU-16 BOARD
 - (2) PW-50 BOARD
 (3) AO-3 BOARD

 - (54) RM-4 BOARD

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3-3. PRINTED CIRCUIT BOARDS

The circuit board information is provided below.

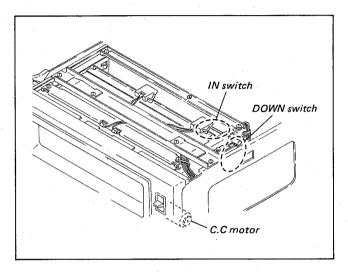
System	Circuit board	Circuit function
	MD-12	 Luminance and chrominance signal modulator.
VIDEO	RP-5-1	• REC/PB amplifier • Rotary erase amplifier
VIDEO	YD-9	• Luminance signal demodulator
	CD-14	• Chrominance signal demodula-
	CD-14	tor
	AU-13	REC/PB amplifierAudio system control
	AU-25	• Bias oscillator • CH-1/CH-2 erase oscillator
AUDIO	SA-9	• Input impedance converter (high ↔ low)
710010	AO-2	• Audio monitor switch
	AO-3	• CH-1/CH-2 output amplifier
		• Monitor out selector/output
		amplifier
	HP-5	Headphones level adj.
•		
	SV-52	Capstan/drum speed and phase servo
	CF-9	CTL REC/PB amplifier
SERVO	RS-3	• Tape tension detector
	(RS-4)	• Reel motor driver control
	EM-1	• Reel rotation detector
	MD-12	• Blanking switcher
	TC-13-1	• Time code REC/PB amplifier
TIME		Automatic reference sync
CODE		selector (for servo)
		• CTL counter (for display)
	SY-36	• Function control
	SY-37	System control micro
	SY-37A	processor
	SY-71	Cassette compartment motor
		driver
		Threading motor driver
		Skew solenoid driver
•		• Pinch solenoid driver
SYSTEM		T brake solenoid driver
CONTROL		S brake solenoid driver
		• S tension regulator solenoid
		driver
	1777.0	• Humidity detector
	KY-9	• Key board with serial data ↔
	(KY-14)	parallel data converter
	DP-9	Display
	DP-9 PC-9	Display Search dial
	DP-9 PC-9 PC-14	Display Search dial Search dial
	DP-9 PC-9 PC-14 PD-14	Display Search dial Search dial Full erase oscillator
	DP-9 PC-9 PC-14 PD-14 /PD-15, PD-17\	Display Search dial Search dial Full erase oscillator 12 V regulator
POWER	DP-9 PC-9 PC-14 PD-14 (PD-15, PD-17) PD-21, DP-8,	Display Search dial Search dial Full erase oscillator 12 V regulator 5 V regulator
POWER DRIVER	DP-9 PC-9 PC-14 PD-14 /PD-15, PD-17\	• Display • Search dial • Search dial • Full erase oscillator • 12 V regulator • 5 V regulator • -12 V regulator
	DP-9 PC-9 PC-14 PD-14 (PD-15, PD-17) PD-21, DP-8,	• Display • Search dial • Search dial • Full erase oscillator • 12 V regulator • 5 V regulator • -12 V regulator • Drum motor power driver
	DP-9 PC-9 PC-14 PD-14 (PD-15, PD-17) PD-21, DP-8,	Display Search dial Search dial Full erase oscillator 12 V regulator V regulator Ture with a very search of the control of th
	DP-9 PC-9 PC-14 PD-14 (PD-15, PD-17) PD-21, DP-8,	• Display • Search dial • Search dial • Full erase oscillator • 12 V regulator • 5 V regulator • -12 V regulator • Drum motor power driver
DRIVER	DP-9 PC-9 PC-14 PD-14 (PD-15, PD-17) PD-21, DP-8,	Display Search dial Search dial Full erase oscillator 12 V regulator Ture vegulator Ture vegulator Ture vegulator Ture vegulator Drum motor power driver Capstan motor power driver
	DP-9 PC-9 PC-14 PD-14 (PD-15, PD-17 (PD-21, DP-8,)DP-9	Display Search dial Search dial Full erase oscillator 12 V regulator 5 V regulator -12 V regulator -12 V regulator Capstan motor power driver Reel motor power driver

3-4. MECHANICAL OPERATION

3-4-1. Cassette-in/Cassette-out Operation

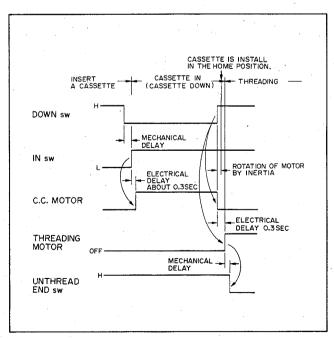
The cassette insertion system in the BVU-800P is a front access system. The cassette compartment drops automatically after the cassette tape has been inserted into the cassette compartment and threading action is started after the cassette is seated in the home position.

The timing chart of the photoelectric sensor and the motor are as follows:



(1) Cassette-in Operation

The timing of the Cassette Down switch (DOWN switch), the Cassette-in switch (IN switch), the Cassette Compartment motor (C.C. motor), the Threading motor, and the Unthreading End switch in the cassette-in operation are as follows:



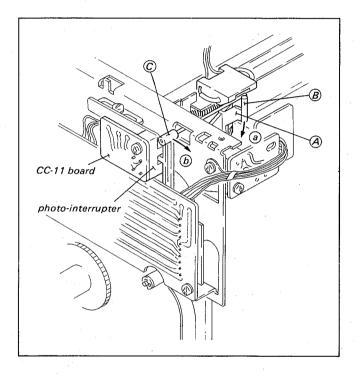
• The DOWN switch and the IN switch are turned to "H" or "L" in the manner stated below and the C.C. motor operate as follows:

(i) DOWN switch

The cassette tape is inserted by hand and then the cassette pushing lever (called (A) for making the sentence simple) moves in the direction indicated by arrow (a).

The down switch arm (called ©) which has been held by the pin (called B) of the A moves in the direction shown by arrow b with the movement of A, and the shutter of © opens the photo-interrupter on the CC-11 board.

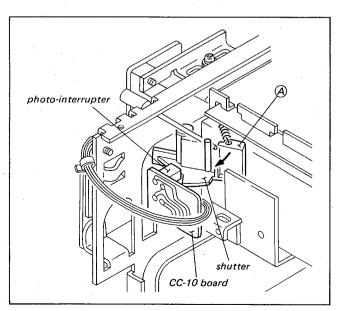
Then the DOWN switch turns to "L".



(ii) IN switch

The cassette tape is inserted by hand further after the DOWN switch operates (until the cassette is stopped).

The (A) shutter covers the photo-interrupter on the CC-10 board and the IN switch turns to "H".



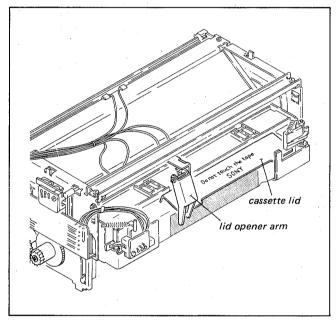
(iii) C.C. motor

When the IN switch turns to "H" after the cassette insertion, about 11.3 V from the SY-71 board is impressed on the C.C. motor via the CC-9 board and the motor starts. The power of the motor moves the cassette compartment through the belt and the gears.

(iv) Cassette tape lid opener

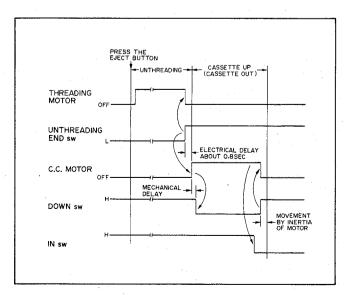
When the cassette tape is inserted, the C.C. motor rotates, and the cassette compartment moves.

The lid opener arm holds the bottom section of the cassette lid at the point where the horizontal movement of the cassette compartment changes to the vertical movement. The lid is opened following with the downward movement of the cassette compartment.



(2) EJECT Operation

The timing of the Threading motor, the Unthreading End switch, the C.C. motor, and the IN switch in the eject operation are as follows:



(3) Protection Circuit

- (i) If the cassette tape is removed forcibly when the cassette tape is dropping, the IN switch turns to "L", puts the machine into the EJECT mode, the C.C. motor rotation is reversed, and the cassette-up operation takes place.
- (ii) If the cassette tape after the cassette-up is pushed in by hand forcibly in the rear direction, the C.C. motor rotates 5 seconds in reverse direction after the cassette-up and the cassette-down operation take place again (for preventing the C.C. motor from burning). And if the drop and rise time of the cassette compartment takes more than about 5 seconds, it is assumed that the cassette compartment is blocked by something and the motor rotation is stopped.
- (iii) The motor drive circuit operates only about 2 seconds in the cassette-up or the cassette-down operation.

3-4-2. Threading and Unthreading Operation

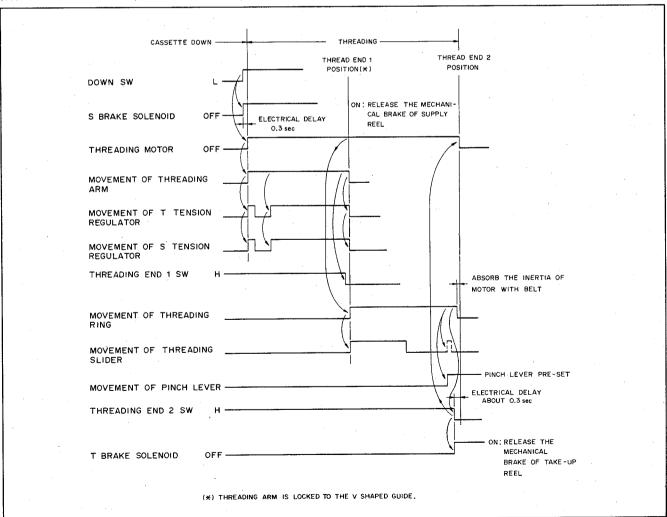
The cassette compartment drops automatically after the cassette tape is inserted into the cassette compartment.

When the cassette tape is placed into the home position, the threading arm moves, and the tape will be drawn out from the cassette. At this point, the threading arm moves to thread the tape around the drum.

In the threading operation, the tape is drawn from the supply reel. In the unthreading operation, the tape is rewound onto the supply reel (when the set condition is normal), but the tape is taken up by the take-up reel when the set is in the states as mentioned below.

- When the power is turned ON while the tape is threaded, all condition will wake up as tape being threaded. (When the power is turned ON, the set goes through unthreading motion and then the threads again.)
- When the AUTO-OFF lamp turns ON. (Condensation is caused on the head drum.) (The set is forcibly placed into the EJECT mode.)
- When the tape tension detector detects a slacken tape or an excessively high tension. (In the tape protection mode.)
 (In the threading completion state (it is called threading end mode), the set is placed into the STOP mode once and, if the tape protection signal exists for more than 2 seconds in the STOP mode, the EJECT mode is set up forcibly. When the tape protection signal is generated in the threading or the unthreading mode, the set is placed into the EJECT mode.)
- Threading Operation
 The operational timing of the electronic switches, the motor, and the ring are shown below.

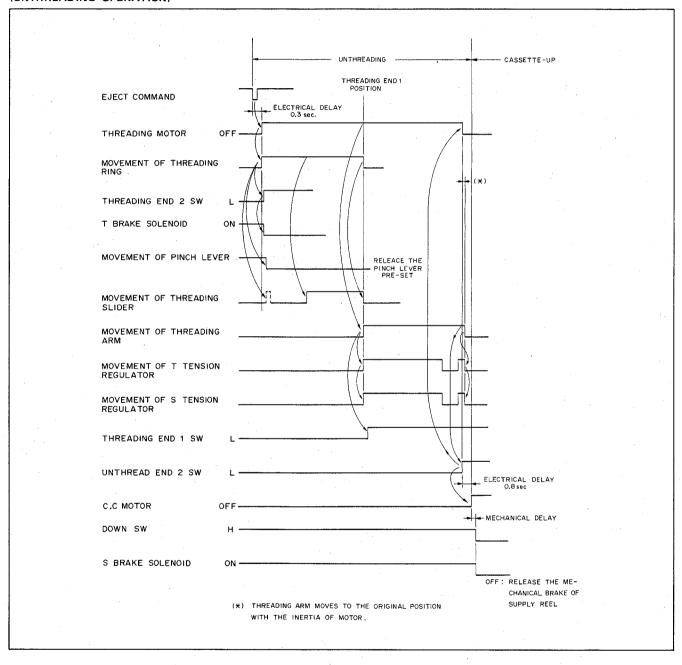
(THREADING OPERATION)



(2) Unthreading Operation

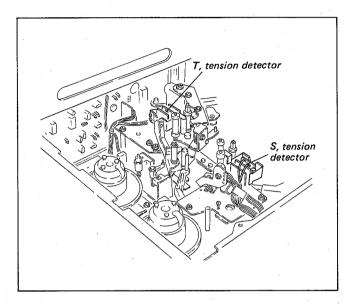
The operational timing of the electronic switches, the motor, the tape guide, and the ring are as follows. If the THREAD-ING DISABLE or TAPE PROTECTION signal is generated, the eject operation is stopped.

(UNTHREADING OPERATION)



3-4-3. Electrical Tape Tension Detector

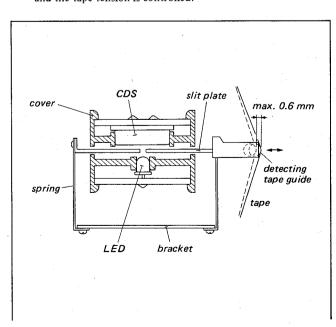
The BVU-800P has two tension detectors. One is placed near the tape entrance side of the cassette tape and the other near the exit for providing an optimum tape tension. The fundamental mechanism of the tension detector is as follows.

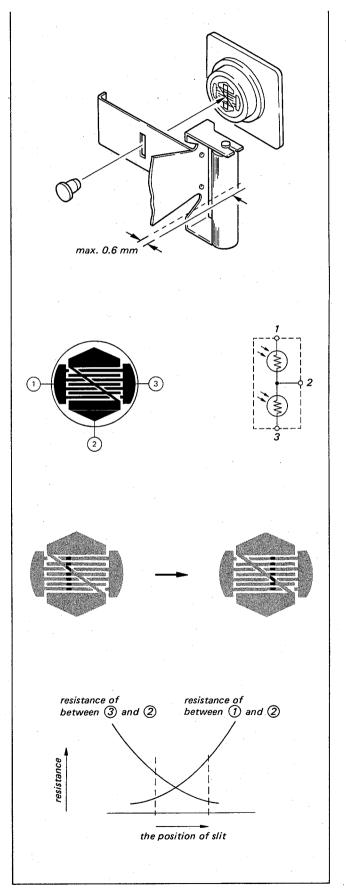


(1) Fundamental Mechanism

The fundamental mechanism of the tension detector is shown in the figure. The light emitted by an LED is received by the CDS detection element through a slit on the slit plate connected directly to the tape guide. The electrode's pattern of this CDS is shown in the figure. The slit moves with the tape tension change and the point where the light reflector moves. Then the resistance values between ① - ② and the resistance between ③ - ② are vary. The tape tension around the tension detector tape guide is detected by the resistance variation.

This resistance variation output controls the reel motor torque, and the tape tension is controlled.





(2) Actual Operation

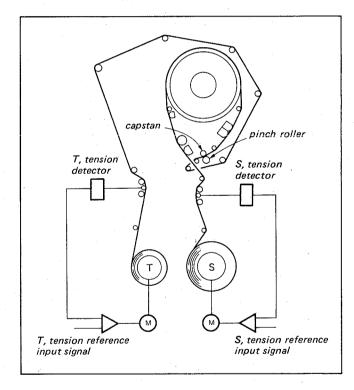
The movable distance of the tape guide directly connected to the slit plate is adjusted with the stopper from 0 to 0.6 mm. The 0 point and the sensitivity of the detecting operation are set with variable resisters on the RS-4 board. The tape tension, when the tape guide moves about 0.6 mm, corresponds to about 300 grams. If 43 grams or more tension is applied on the supply side tension detector in the F-FWD mode, 43 grams or more tension on the take-up side tension detector in the REW mode, on 255 grams or more tension is applied on the supply side and the take-up side tension detectors in the modes other than the above, the BVU-800P consideres to have abnormal tension and will go into the stop mode to protect the tape.

On the other hand, when the tension applied on the tape is less than 8 grams, it is regarded to have a tape slack and the auto stop mode is set up in any mode for the tape protection.

3-4-4. FWD, REV, SHUTTLE, JOG Operation

(1) Tension Servo System

The tension servo loops shown in the figure function independently for the supply and the take-up motor in the FWD (excepting the modes set up by pressing the PLAY button, i.e., the REC mode and the x1 SPEED PLAY mode), REV, SHUTTLE, JOG. STILL and the STOP mode. Thus the tape tensions on the supply and the take-up side are controlled to the optimum conditions at the all time. The tape tension on the supply side is controlled by the mechanical tension control mechanism comprised from the tension arm, the brake band, and the supply reel table in the modes set up by the PLAY button, that is, in the REC mode and the x1 SPEED PLAY mode. In this case, the power is not supplied to the supply reel motor. The tape tension on the take-up side in the REC mode and the x1 SPEED PLAY mode is controlled to optimum condition by the tension servo loop as well as in the FWD (excepting the REC and the x1 SPEED PLAY mode), REV, SHUTTLE, JOG, STILL, and the STOP mode.

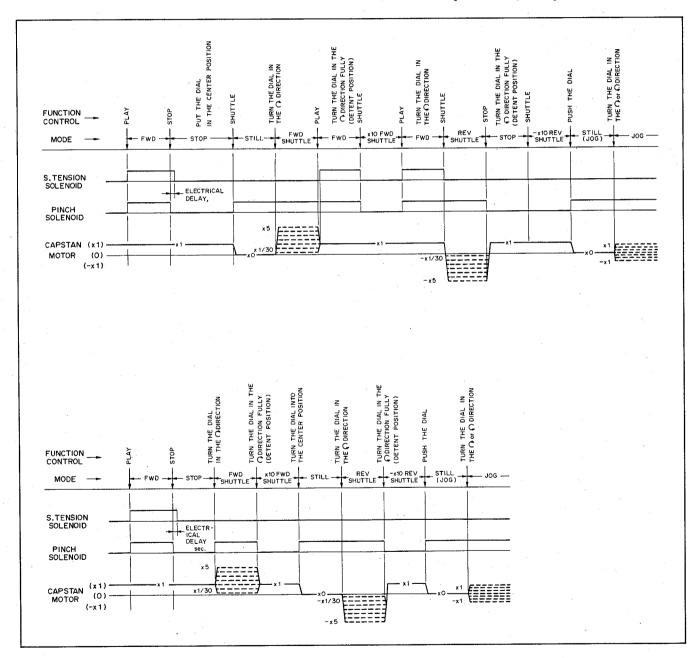


(2) Timing Chart

The timing of the S tension solenoid, pinch solenoid, and the rotation of the capstan motor in the FWD, REV, SHUTTLE, and the JOG mode are shown below. There are two method for the mode switching from the PLAY to the SHUTTLE; One is by pressing the SHUTTLE button and the other is by not pressing the SHUTTLE button. The two method are described here separately. Please refer to page 2-8, for the switching the two ways.

The tape speed in the SHUTTLE operation by using the SEARCH DIAL can be switched to 16 steps to 0, $x\pm1/30$, $x\pm1/10$, $x\pm1/5$, $x\pm1/2$, $x\pm1$, $x\pm2$, $x\pm5$, $x\pm10$. In the steps from the $x\pm1/30$ to $x\pm5$ speed, the pinch roller is engaged and the tape will be driven by the capstan. In the $x\pm10$ speed (the SEARCH DIAL is at the detent position), the pinch roller is not engaged and the tape is driven by the supply or the take-up reel.

In the JOG operation, the tape speed can be changed from 0 to $x\pm 1$ and the tape is driven by the capstan.



3-4-5. F. FWD and REW Operation

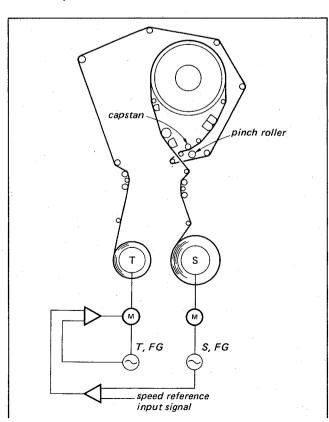
In the F. FWD and the REW operation, the pinch roller is disengaged and the tape is moved by the take-up or the supply reel motor at a high speed.

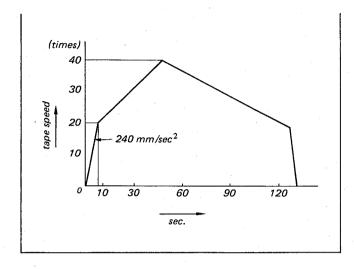
The reel servo makes the speed servo and the tension servo work on the basis using the detected signals from the tension detectors on the take-up and the supply side and the rotation numbers detected by the DMEs (Divided Type Magnetoresistance Element) near by the take-up and the supply reel table. Then the tape tension and the rotation numbers of the reel table are controlled by the speed servo and the tension servo.

The reel servo system in the F. FWD mode is identical with the one in the REW mode and the servo operation in the F. FWD mode is described here.

(1) Speed Servo System

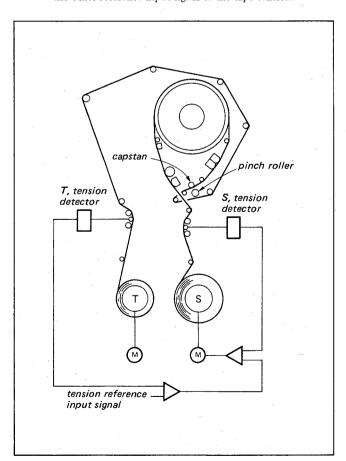
- The speed servo system is designed as shown in the following block diagram.
- The take-up side FG and the take-up reel motor makes a minor servo loop. In this case the reference input signal is made from the error signal from the revolution speed of the supply reel table and the other reference input signal. Therefore the rotation numbers of the supply reel table from the tape is controlled for constant speed.
- The system regulates the revolution speed of the supply reel
 of the tape in the F. FWD mode so that the tape overrun
 becomes minimal (the leader tape does not come into
 contact with the head drum) when the auto stop mode is
 set up at the end of the tape and the brake is applied on the
 reel.
- The speed servo system is designed with above two main loops.





(2) Tension Servo System

- The tension servo system is designed as shown in the following block diagram.
- The supply side tape tension is detected by the tension detector. And this signal is fed back to the supply reel motor torque.
- The reference input signal of the tape tension is made from the error signal of the tension detector output signal and the other reference input signal of the tape tension.

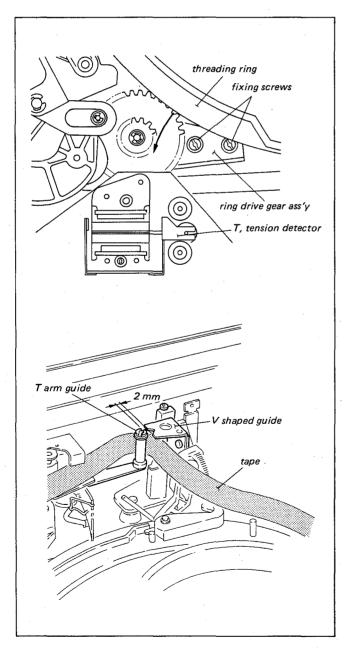


3-5. CASSETTE REMOVAL PROCEDURE WHEN NORMAL EJECTION IS NOT POSSIBLE

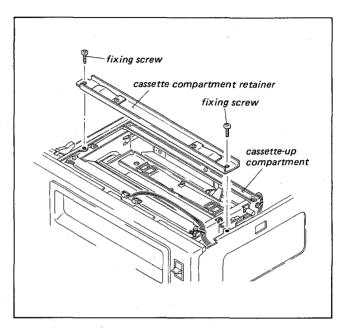
If the eject operation becomes impossible due to trouble or the cassette-up compartment does not rise when the eject operation takes place, the cassette tape can be removed from the set by the procedures described below.

- 1. Remove the upper panel.
- Loosen the ring drive gear assembly two mounting screws.
 And move the ring drive gear assembly in the arrow direction.
 Turn the threading ring by hand in the counterclockwise direction until the T arm guide moves away about 2 mm from the V shaped guide.

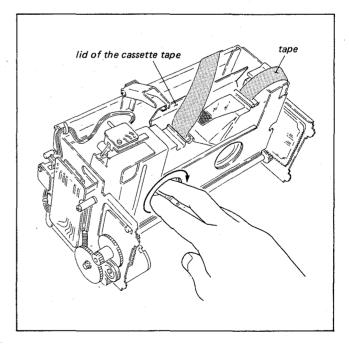
(The threading ring and the threading slider move in the unthreading direction. But the tape remains at the position of the threading completion.)



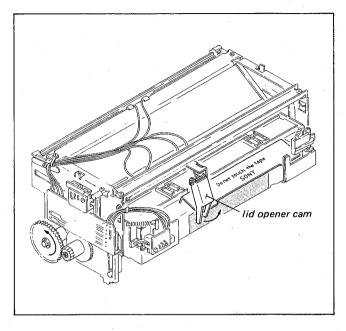
3. Remove the cassette compartment retainer and disconnect the connector on the CC-9 board.



- 4. Bring up the cassette compartment with the cassette tape in it slowly. Remove the tape remaining in the set carefully so that it does not damage.
- Hold the cassette tape lid so that it does not close. Wind the tape into the cassette tape by turning the reel hub on the back of the cassette tape with finger.



6. Raise the cam for opening the lid and close the cassette tape lid.



- 7. Remove the tape from the cassette compartment.
- 8. Turn the gear on the right side of the cassette compartment counterclockwise direction by hand in order to place the cassette compartment into the up state.
- 9. Locate the cause of the trouble and remedy the problem.

SECTION 4 PERIODIC CHECK AND MAINTENANCE

It is recommended that the following periodic check and maintenance schedule be employed in order to obtain maximum performance and longer tape life from the BVU-800P.

4-1. PERIODIC CHECK AND MAINTENANCE SCHED-ULE

- 1. Perform the system control operation check in sec. 4-2 daily before the operation.
- 2. Perform the maintenance check described separately in accordance with the operating hours of the machine. (Table 4-1) The BVU-800P has an hour meter on the connector panel for the periodic check and the maintenance. The hour meter accumulates and records the elapsed time of all the modes in which the drum rotates while the tape is threaded (i.e., the FWD, REV, REC, SHUTTLE, and JOG modes). It is recommended that the hour meter is used as a tool for determining the periodic check. When the hour meter indicates the maximum value, 1000 hours, the hours meter must be replaced with a new one.
 (SONY Part No.: 1-548-141-41)

3. It is recommended to perform the following checks and adjustments after the machine whose operational hours reach 200, 500, 750, and 1000 hours in order to obtain good quality picture.

If it is not to meet the specifications, perform the upper drum assembly replacement.

NOTE: Video head life is effected extensively by operating ambient conditions.

13-1-1 ~ 13-1-4.

Playback Amplifier Adjustment

- 13-1-5. Y-RF Balance/Level Adjustment
- 13-1-6. Chroma RF Balance/Level Adjustment
- 13-5-1. Record Current Frequency Response Adjustment
- 13-5-2. Y Record Current Adjustment
- 13-5-3. Chroma Record Current Adjustment
- 13-7. Overall Frequency Response Adjustment
- 14-1. Rotary Erase Current Adjustment

○: Cleaning ◇: Check ♦: Replacement

				[
Operat	ing Hours (H)	-										
Item	Part No. of replacement part	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	Remarks
Tape path cleaning (including the video heads)		0	0	0	0	0	0	0	0	0	0	Perform whenever repair work is attempted
Check and adjustment of the supply side and the take-up side tension detector		\$	\$	♦	\$	\rightarrow	♦ **	♦	\$	♦	♦	
Replacement of the pinch roller (When the BVU-800P is used as the editing machine)	A-6750-113-D ARM ASS'Y, PINCH	_	. •		•	-	•	_	•		•	
Replacement of the pinch roller (When the BVU-800P is used as the playback machine (such as on air))	A-6750-113-D ARM ASS'Y, PINCH	_	_	_	•	10 to	_	_	•	-	_	
Check the FWD back tension (Replacement of the brake band)	X-3668-045-0 BAND ASS'Y, BRAKE	_	♦	_	•	_ :	♦	-	•		♦	
Check the brake torque (Replacement of the brake shoe)	X-3642-166-0 SHOE ASS'Y	-	_	_	\$		_	-	•	-	_	
Replacement of the belt of the threading motor assembly	3-668-173-00 BELT (3), LM	_	0	_	0	-	0	_	•	-	0	
Replacement of the belt of the cassette compartment	3-653-387-00 BELT, LM	-	_	-	_	- !	-	-	•	1	_	-
Replacement of the brush of the slip-ring assembly	3-607-104-00 BRUSH or A-6709-360-A BRUSH (4) ASS'Y		_	-	_			-	*		_	

NOTE: Regarding overhaul of equipment.

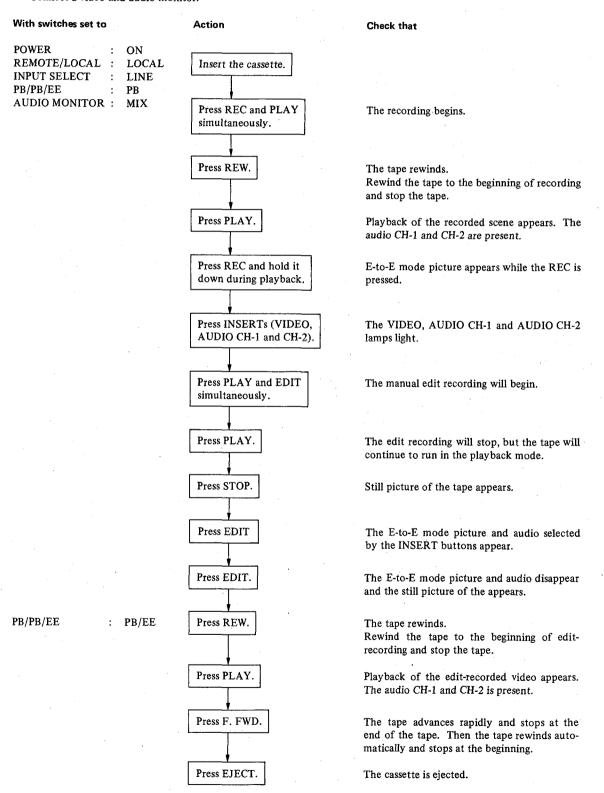
When overhaul of an equipment is attempted, replace parts referring list. For the parts not listed in the following list, such as motors and stationary heads, refer the following items.

reel motor:	about 3,000 H
capstan motor:	about H
cassette compartment motor:	about H
threading motor:	about H
audio/CTL head:	about 3,000 H
erase head:	about 4,000 H
time code head:	about 4,000 H

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4-2-2. Record Function Check

- Insert a video cassette tape on which recording can be made.
- Connect signals to the VIDEO IN, AUDIO IN CH-1 and CH-2 connectors.
- Connect a video and audio monitor.



4-2-3. **Editing Function Check**

With switches set to

REMOTE LOCAL:

AUDIO MONITOR:

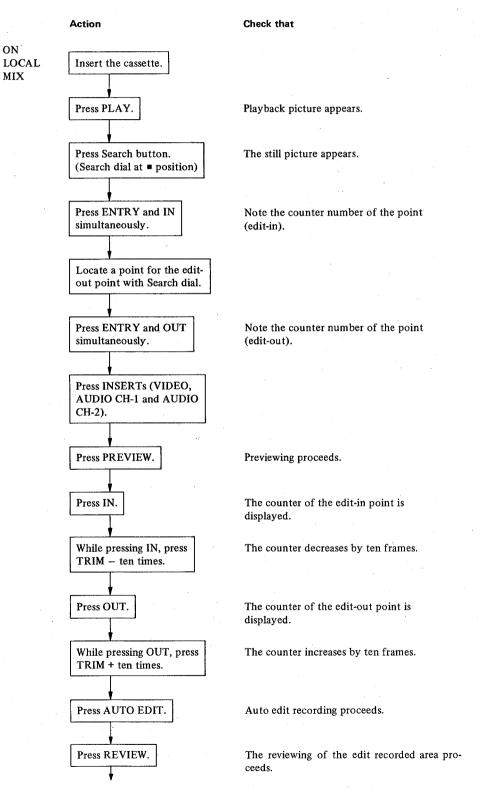
POWER

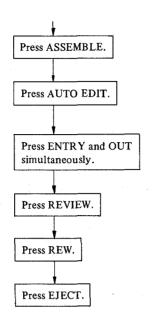
- Install a recorded tape (Video, Audio CH-1/CH-2). (Do not utilize an alignment tape).
- Apply the video and audio CH-1/CH-2 signals.

ON

MIX

The following is the procedure when the SEARCH DIAL switch on the SY-37 board is in the ON position.





The ASSEMBLE button lights.

The point where the AUTO EDIT has been pressed is entered as the edit-in point and auto edit recording begins.

The point is entered as the edit-out point and auto edit recording stops.

The reviewing of the edit recorded area is proceeded.

The tape stops at the beginning.

The cassette is ejected.

4-3. MAINTENANCE AFTER REPAIRS

Perform the following maintenance after repair without regarding the machine operating hours.

- Video heads and the rotary erase heads cleaning. (Referring sec. 4-5-1.)
- 2. Tape movement area cleaning. (Referring sec. 4-5-2.)

4-4. FIXTURE FOR PERIODIC CHECK AND MAINTENANCE

J-6001-820-A	Drum Eccentricity Gauge (3)
J-6001-830-A	Drum Eccentricity Gauge (2)
J-6001 840-A	Drum Eccentricity Gauge (1)
J-6001-930-A	Drum Eccentricity Gauge (4)
J-6080-013-A	Dihedral Adjusting Screw
J-6009-830-A	Flatness Plate
Y-2031-001-0	Cleaning Fluid
2-034-697-00	Cleaning Piece
3-702-215-01	Torque Measurement Tape (100 mm dia.)
3-702-216-01	Back Tension Adjustment Jig
7-732-050-30	Tension Scale (100g full scale)
7-732-050-40	Tension Scale (200g full scale)
8-960-020-62	Alignment Tape, RR5-2SB-PAL
9-911-053-00	Thickness Gauge
Standard produc	ets Head Demagnetizer, HE-4

4-5. PERIODIC CHECK AND MAINTENANCE PROCEDURE

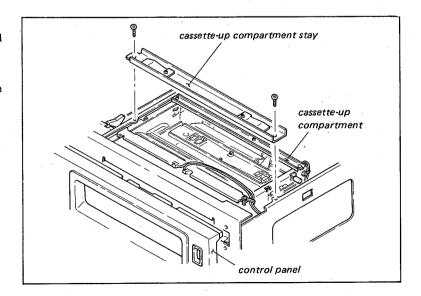
When the periodic check or maintenance is attempted, a few items are necessary to remove the cassette-up compartment and to mute the tape beginning sensor and the tape end sensor.

And it is necessary to check the tracking adjustment after the upper drum replacement is attempted.

If necessary, perform the following procedures.

[1] Removal of Cassette-up Compartment

- (1) Remove the upper panel, each side ornamental panels, and the control panel.
- (2) Remove the cassette-up compartment stay.
- (3) And bring up the cassette-up compartment from the machine.



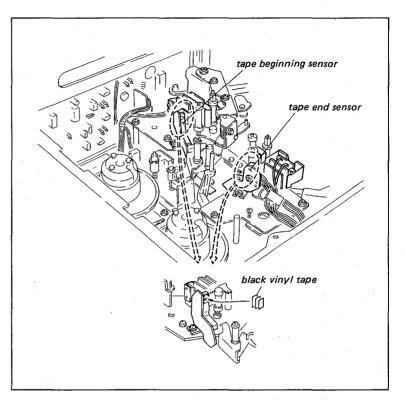
[II] Muting of Tape Beginning Sensor and Tape End Sensor

(1) Cut a piece of black vinyl tape into a piece of 1 cm x 1.5 cm long and place it over to each photo-transistors. Light will path through one or two pieces of tape so that three pieces of black vinyl tape should be over lapped.

(CAUTION)

Never forget to remove the black vinyl tape from the two photo-transistors.

If the machine is placed into the F. FWD or REW mode without removing the black vinyl tape, the machine cannot detect the tape beginning or tape end. So the machine cannot operate the AUTO STOP operation. The tape and the machine are put into the dangerous situation.



[III] Tracking Check

Location of the tape guides and heads are follows.

A : supply tape guide 1

B : supply side tension detecting guide

©: supply tape guide 2

(D): supply tension regulator arm pin

E : full erase head

(F) : TG-1

G: time code head

(H) : TG-2

(I) : head drum

(J): TG-3

(K): audio/CTL head

(L) : TG-4

M : capstan shaft

(N): pinch roller

(i) : correction guide

P: threading guide (1)

threading guide (2)

R : threading guide (3)

S : threading guide (4)

① : correction guide (A)

: 5th guide : 6th guide

w : take-up tape guide 2

x : take-up side tension detecting guide

Y : take-up tape guide 1

The tracking adjustment is required to be performed in the following steps.

9-3. Video Tracking Adjustment

9-5-2. Time Code Head Height Adjustment

9-5-3. Time Code Head Zenith Adjustment

9-6-1. Audio Head Height Adjustment

9-6-2. Audio Head Zenith Adjustment

9-6-3. Audio Head Azimuth Adjustment

9-6-4. Audio Head Phase Adjustment

9-7. Audio/CTL Head Position Adjustment

9-8. Video Head Dihedral Adjustment9-9. Video Head Azimuth Adjustment

9-9. Video Head Azimuth Adjustmen

11-11. Switching Position Adjustment

11-12. Drum Lock Phase Adjustment

13-1-1 ~ 13-1-4.

Playback Amplifier Adjustment

13-1-5. Y-RF Balance/Level Adjustment 13-1-6. Chroma RF Balance/Level Adjustment

13-5-1. Record Current Frequency Response Adjustment

13-5-2. Y Record Current Adjustment

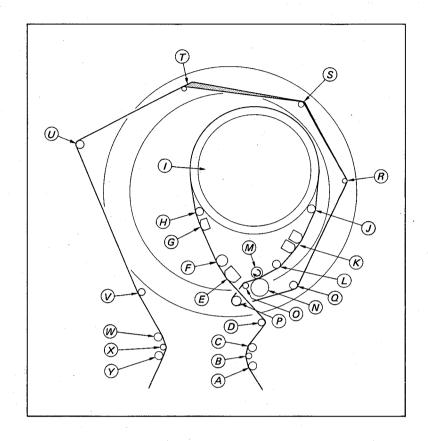
13-5-3. Chroma Record Current Adjustment

13-7. Overall Frequency Response Adjustment

14-1. Rotary Erase Current Adjustment

[IV] Note For Adjustment Spec.

The word "SPECIFICATION" used in this alignment procedure does not imply the parameter is guaranteed but is only a guidline to obtain optimum performance.



4-5-1. Cleaning Procedure of the Video Heads and the Rotary Erase Heads

With the power OFF. Press the cleaning piece moistured with the cleaning fluid and turn the drum slowly with hand, cleaning the video heads and the rotary erase heads. (Do not exert too much pressure.)

NOTE: Never move the cleaning piece in the vertical direction of the head tip in the cleaning. It may to damage the head tips.

4-5-2. Cleaning Procedure of Tape Movement Areas

Wipe the tape bearing surface (of the tape guides, drum, stationary heads, capstan shaft, and the pinch roller) with a piece of cleaning piece moistened with the cleaning fluid.

Cleaning fluid: SONY Part No. Y-2031-001-0 Cleaning piece: SONY Part No. 2-034-697-00

NOTE: Don't clean the surface condensation sensor on the lower drum with the cleaning cloth moistened with the cleaning fluid. Clean the surface with dry cloth.

4-5-3. Head Degaussing

It is recommended to demagnetize the rotary heads and the stationary heads with demagnetizer when using as a playback machine.

Demagnetizer: SONY HE-4.

 Bring the tip of the demagnetizer as close as possible to the head tip without actually contacting it. Draw demagnetizer very slowly and turn off demagnetizer when it is at least three feet away from the machine.

4-5-4. Cleaning of Slip-Rings and Brushes

The head drum assembly slip-rings and the brushes do not required periodical cleaning. However if a dust adheres on the slip rings or the brushes, clean the slip-rings or the brushes as follows.

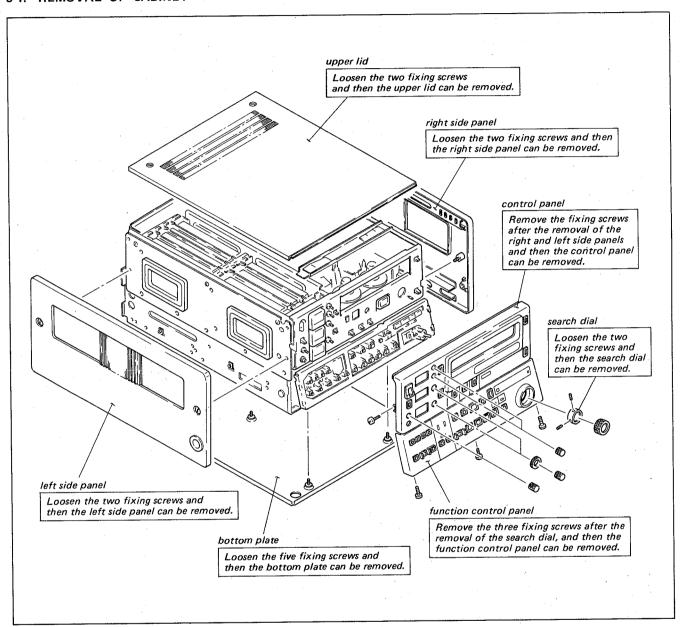
- Clean the slip-ring or the brush by using soft brush which has short hairs. If this brush can not obtained, use a blower brush and cotton swab.
- Cleaning fluid is not necessary. However if it is difficult to remove persistent debris, use Freon as cleaning agent.

NOTE

- Do not use the alcohol as a cleaning fluid. If the slip-rings and the brushes are cleaned with alcohol, the surface tend to attract material which may increase the resistance at the contact area.
- 2. Do not use conductive grease.

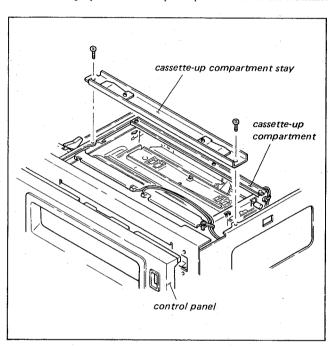
SECTION 5 SERVICE INFORMATION

5-1. REMOVAL OF CABINET



5-2. REMOVAL OF CASSETTE-UP COMPARTMENT

- Remove the upper panel, each side ornamental panels, and the control panel.
- 2. Remove the cassette-up compartment stay.
- 3. And bring up the cassette-up compartment from the machine.



5-3. SPARE PARTS

- Safety Related Components Warning.
 Components identified by shading marked with on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.
- Replacement Parts supplied from Sony Parts Center will sometimes have a different shape from the original parts. This is due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".
 This manual's exploded views and electrical spare parts list

indicate the parts numbers of "the standardized genuine parts at present".

Regarding engineering parts changes in our engineering department, refer to Sony service bulletins and service manual supplements.

3. Printed Components in Bold-Face type on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

5-4. MODULE EXTENDER

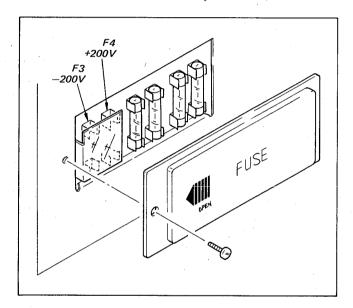
The Amp chassis printed circuit boards can be serviced using a module extender. Simply insert the extender into the Amp chassis and connect the circuit board to be serviced to the end of the extension board.

(CAUTION)

Be sure to turn off power before inserting or removing extenders or printed circuit boards.

5-5. CAUTION OF HIGH VOLTAGE

Do not touch fuse post at any time, even power is off. (Especially Ref. No. F3 and F4 on FU-16 board at power block.)



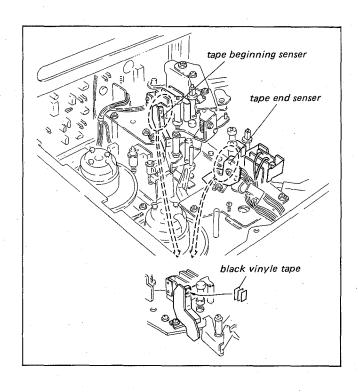
5-6. MUTING OF TAPE BEGINNING SENSOR AND TAPE END SENSOR

Cut a piece of black vinyl tape into a piece of $1 \, \text{cm} \times 1.5 \, \text{cm}$ long and place it over to each photo-transistors. Light will path through one or two pieces of tape so that three pieces of black vinyl tape should be over lapped.

(CAUTION)

Never forget to remove the black vinyl tape from the two phototransistors.

If the machine is placed into the F. FWD or REW mode without removing the black vinyl tape, the machine cannot detect the tape beginning or tape end. So the machine cannot operate the AUTO STOP operation. The tape and the machine are put into the dangerous situation.



5-7. FIXTURE

Parts Number	Description	For Use
J-6001-820-A	Drum Eccentricity Gauge (3)	Upper drum eccentricity adjustment
J-6001-830-A	Drum Eccentricity Gauge (2)	
J-6001-840-A	Drum Eccentricity Gauge (1)	
J-6001-930-A	Drum Eccentricity Gauge (4)	
J-6080-013-A	Dihedral Adjusting Screw	Video head dihedral adjustment
J-6009-830-A	Flatness Plate	Stationary head and tape guide slantness adjustment
J-6130-010-A	Reel Table Height Check Base Jig	Reel table height adjustment
J-6130-020-A	Reel Table Height Check Jig	
J-6150-020-A	Pinch Lever Adjustment Jig	Pinch lever right angle adjustment
J-6150-960-A	Reel Motor Shaft Slantness Check Jig	Reel motor shaft slantness adjustment
Y-2031-001-0 2-034-697-00	Cleaning Fluid Cleaning Piece	Cleaning
8-899-999-51	Torque Measurement Tape (100 mm dia.)	Measurement of torque
3-702-216-01	Back Tension Adjustment Jig	Back tension adjustment
7-723-902-00	Inspection Mirror	For clearance check
7-732-050-30	Tension Scale (100g full scale)	Measurement of back tension and torque
7-732-050-40	Tension Scale (200g full scale)	
7-662-001-62	Sony Grease, SGL-501	For lubrication
8-960-020-61	Alignment Tape RR5-1SB-PAL	Tracking, audio, video and overall adjustment
9-911-053-00	Thickness Gauge	For clearance check
Standard Products	Head Demagnetizer (HE-4)	Degaussing of heads

5-8. SAFETY CHECK-OUT

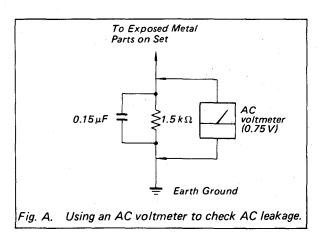
After correcting the original service problem, perform the following safety checks before releasing the set.

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

- A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
- A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
- 3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)



SECTION 6 REPLACEMENT OF MAJOR PARTS

6-1. REPLACEMENT OF DRUM ASSEMBLY

Relacement procedure:

- (1) Remove the brush assembly for the slip ring.
- (2) Disconnect the connector of the drum assembly. Remove the three fixing screws and remove the defective drum.
- (3) Install a drum on the base while turning the drum assembly in a counterclockwise direction as seen from top of the set.
- (4) Re-connect the connector.
- (5) Install the brush assembly for the slip-ring.

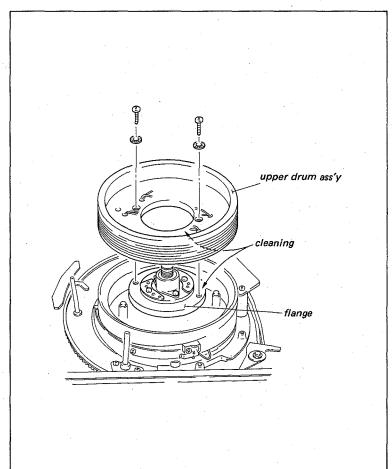
6-2. REPLACEMENT OF UPPER DRUM ASSEMBLY

The rotary video and erase heads cannot be replaced individually; the whole upper drum assembly must be replaced when any one of these heads fails.

Tool:

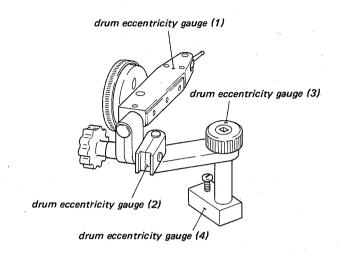
- Drum eccentricity gauge (1)
- Drum eccentricity gauge (2)
- Drum eccentricity gauge (3)
- Drum eccentricity gauge (4)

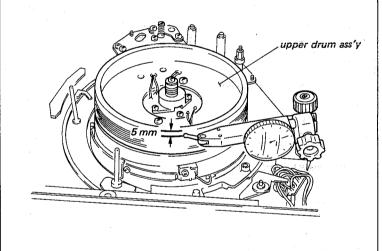
- (1) Remove the brush assembly for slip ring.
- (2) Unsolder the eight leads of the video and rotary erase heads from the printed circuit board and remove the upper drum assembly from the head drum assembly.
- (3) Clean the matching surface of the flange and new upper drum assembly with a cloth moistened with cleaning fluid. (If there is a spacer between drum and flange, it should be remain in place, or be re-installed in the same place with the new upper drum assembly.)

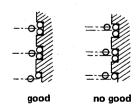


(4) Place the upper drum assemly so that the head of the white leads is close to the round indentation on the surface of the flange. (The rounded indentation can be seen through the hole in the end of the printed circuit board the white leads are connected to.) Thread the two screws snugly but do not tighten.

- (1) Assemble the drum eccentricity gauges (1),(2),(3) and (4) as shown in figure. Mount the assembled jigs on the machine so that the tip probe positions at the point about 5mm apart from the top edge of the upper drum.
- (2) Turn the upper drum slowly and confirm the clockwise pointer deflection of the within micron gauge is 5 during one complete turn of the upper drum. If this specification satisfied, is proceed with step (4). If it is not, perform step (3).
- (3) Tap the inside of the upper drum with a nylon hammer or a screwdriver handle and like so that the gauge deflection remains within 5 micron.
- (4) After the adjustment, tighten the two screws that are securing the upper drum, alternately and gradually using a tighening torque:14 to 16kg x cm.
- (5) After the screws are tightened, check again that the eccentricity of the upper drum is within 5 micron.
- (6) Solder the eight leads from the video and rotary erase heads to the printed circuit board.
- (7) Install the brush assembly for the slip ring. (The positional relationship of the slip-ring and the brush must be as shown in the figure.)



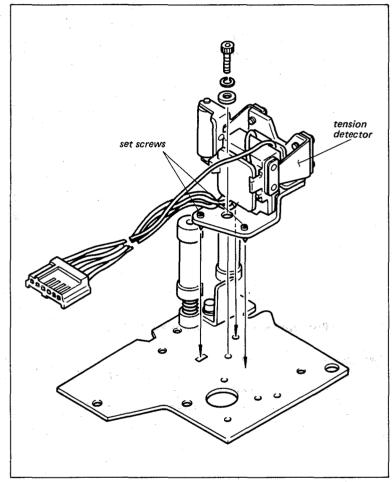




6-3. REPLACEMENT OF TENSION DETECTOR

T and S tension detectors are precisely factory calibrated before shipment. Therefore the component parts cannot be replaced as the single parts; the whole tension detector must be replaced.

- (1) Remove the cap screw and remove the tension detector.
- (2) Install the two set screws to the new tension detector.
- (3) Install the tension detector to the set.

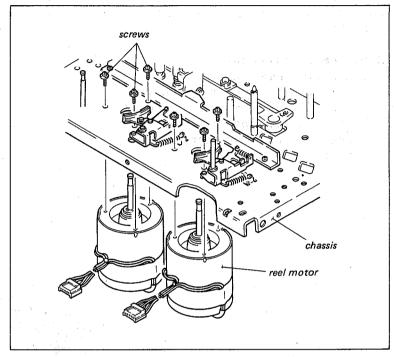


6-4. REPLACEMENT OF MOTOR

6-4-1. Replacement of Reel Motor

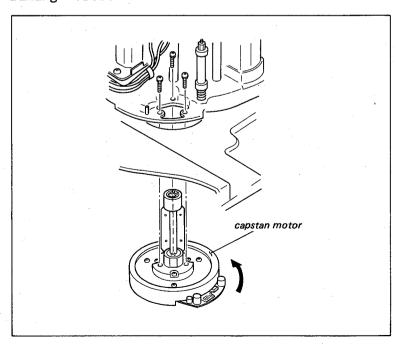
Replacement procedure:

- (1) Loosen the two set screws on the under side of the reel table. Remove the reel table from reel shaft.
- (2) Remove the three screws and replace the reel motor.



6-4-2. Replacement of Capstan Motor

- (1) Remove the three screws and remove the capstan motor.
- (2) Install the new capstan motor.
- (3) While turning the capstan motor in the counterclock-wise direction and tighten the fixing screw.

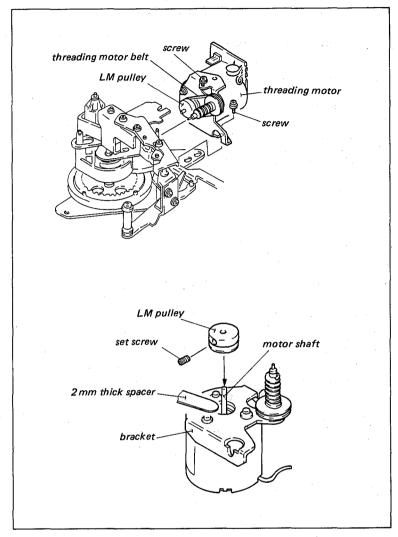


6-4-3. Replacement of Threading Motor

Tool:Allen wrench (each edge has 1.27mm)
Thickness gauge

Replacement procedure:

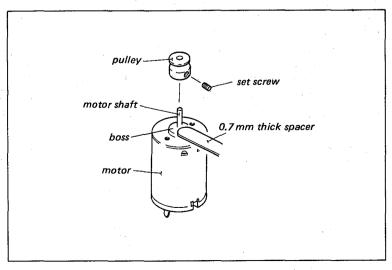
- (1) Remove the threading motor block from chassis.
- (2) Replace the motor.
- (3) Install the LM pully so that the clearance between the pully and the bracket is 2mm.



6-4-4. Replacement of Cassette-up Assembly's motor

Tool:Allen wrench (each edge has 1.5mm)
Thickness gauge

- (1) Replace the cassette-up assembly's motor.
- (2) Install the pully so that it positioned 0.7mm apart from the ege of the motor boss.



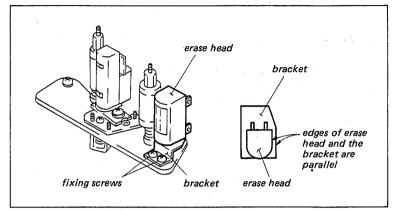
6-5. REPLACEMENT OF THE STATIONARY HEAD

6-5-1. Replacement of Erase Head

Replacement procedure:

- (1) Remove the erase head brock.

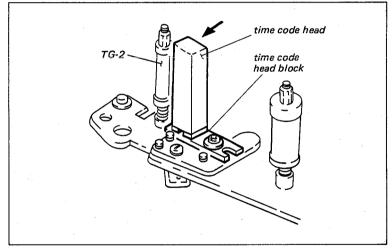
 Remove the two screws and replace the erase head.
- (2) Install the erase head so that the positional relationship between the erase head and bracket is as shown in figure.



6-5-2. Replacement of Time Code Head

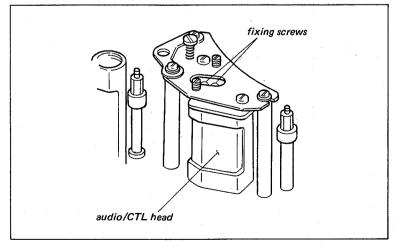
Replacement procedure:

- (1) Remove the time code head block. Remove the two screws and replace the time code head block.
- (2) Install the time code head while pressing it in the direction of the arrow.



6-5-3. Replacement of Audio/CTL Head

- (1) Remove the audio/CTL head block from the machine.
- (2) Install the audio/CTL head turning in the clockwise direction.

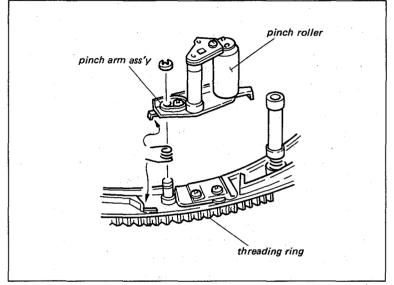


6-6. REPLACEMENT OF PINCH ROLLER

The pinch roller cannot be replaced individually. The whole pinch arm assembly must be replaced.

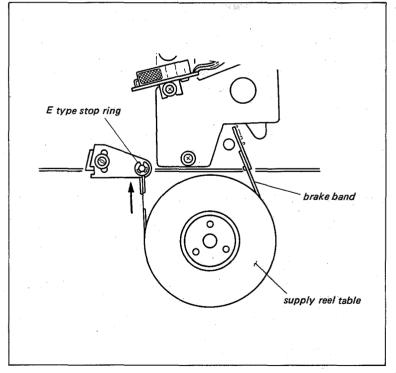
Replacement procedure:

- (1) Remove the pinch arm ass'y from the threading ring.
- (2) Install the new pinch arm ass'y on the threading ring as shown in figure.



6-7. REPLACEMENT OF BRAKE BAND

- (1) Put the machine into STOP mode.
- (2) Turn off the power.
- (3) Remove the brake band protector.
- (4) Remove the E type stop ring. And move the brake band in the direction shown by arrow for removal.
- (5) Replace the new one.

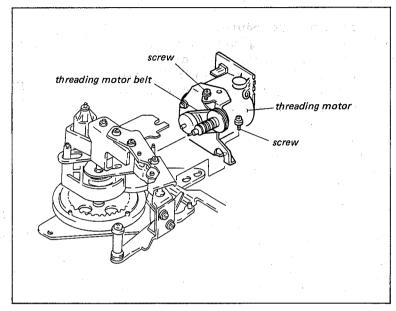


6-8. REPLACEMENT OF THE BELT

6-8-1. Replacement of the Threading Motor's belt

Replacement procedure:

- (1) Put the machine into the EJECT completion mode.
- (2) Turn off the power and remove the MD and YD board.
- (3) Disconnect the connector of the threading motor block.
- (4) Remove the worm gear cover.
- (5) Loosen the two fixing screws of the motor block and remove the motor block toward the amp chassis.
- (6) Replace the belt with a new one.
- (7) Assemble the motor block by reversing steps (6) to (1).
- (8) Turn on the power and insert a cassette tape. Check the threading and unthreading operations are smooth.



6-9. BRUSH REPLACEMENT

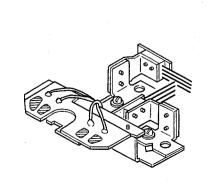
Spare parts of the brush is prepared as the following two types.

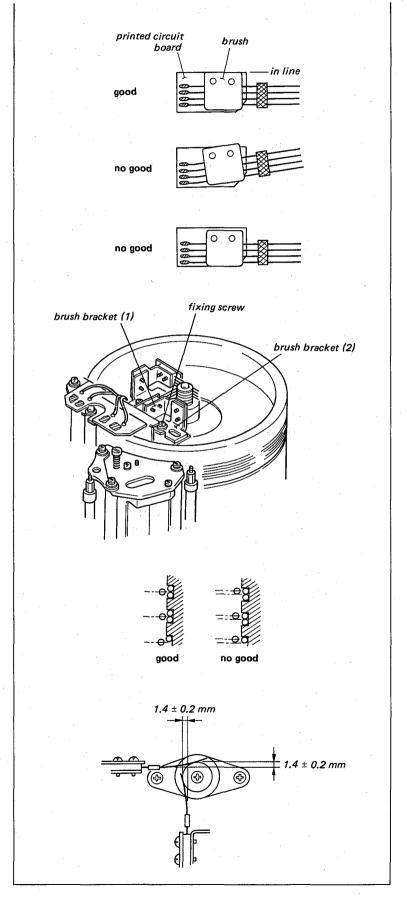
- 1. Brush assembly as shown in figure.
- 2. Single part of the brush.

Replacement procedure of the single part is described here.

It is necessary to perform the brush height adjustment and brush position adjustment in any type of spare parts.

- (1) Remove the brush and solder the new brush to the printed circuit board so that the edge of the brush and the printed circuit board are in the same plane.
- (2) Install the assembled brush into the brush bracket.





6-10. ADJUSTMENT ITEM TABLE AFTER MAIN PARTS REPLACEMENT

Replacement of Drum Assembly

Adjustment (8-4) \longrightarrow Pinch Roller Azimuth Adjustment (9-1-5) \longrightarrow Tape Adjustment at Pinch Roller (9-2-2) → Video Tracking Adjustment (9-3) → FF/REV Tape Run Overall Adjustment (9-2-6) → Time Code Head Height Adjustment (9-5-2) Time Code Head Zenith Adjustment (9-5-3) \rightarrow Audio Head Adjustment (9-6) → Video Head Dihedral Adjustment (9-8) → Video Head Azimuth Adjustment (9-9) → AUDIO/ CTL Head Position Adjustment (9-7) → Drum Free Speed Adjustment (11-2) → Drum Lock Phase Adjustment (11-12) → Switching Position Adjustment (11-11) → Picture Splitting Compensator Adjustment (11-13) ----> DC Balance Adjustment (13-1-1) → RF 7MHz Adjustment (13-1-2) → RF 5.8MHz Tuning (13-1-3) → RF Frequency Response Adjustment (13-1-4) → Y-RF Balance/ Level Adjustment (13-1-5) —➤ Chroma-RF Balance/Level Adjustment (13-1-6) Record Current Frequency Response Adjustment (13-5-1) Y Record Current Adjustment (13-5-2) → Chroma Record Current Adjustment (13-5-3) → Overall Frequency Reaponse Ajustment (13-7) → Rotary Erase Current Adjustment (14-1)

Replacement of Upper Drum Assembly

Upper Drum Eccentricity Adjustment $(6-2) \longrightarrow Slip$ -ring and Brush Position Adjustment (9-10) → Video Tracking Adjustment (9-3) → FF/REV Tape Run Overall Adjustment (9-2-6) - Time Code Head Height Adjustment → Time Code Head Zenith Adjustment (9-5-3) → Audio Head Adjustment (9-6) Video Head Dihedral Adjustment (9-8) Video Adjustment (9-9) ---- AUDIO/CTL Head Position Adjustment Head Azimuth (9-7) --- Drum Free Speed Adjustment (11-2) --- Drum Lock Phase Adjustment (11-12) → Switching Position Adjustment (11-11) → Picture Splitting Compensator Adjustment (11-13) \longrightarrow DC Balance Adjustment (13-1-1) \longrightarrow RF 7MHz Adjustment (13-1-2) \longrightarrow RF 5.8MHz Tuning (13-1-3) \longrightarrow RF ment (13-1-5) → Chroma-RF Balance/Level Adjustment (13-1-6) → Re-Current Frequency Response Adjustment (13-5-1) → Y Record Adjustment (13-5-2) - Chroma Record Current Adjustment $(13-5-3) \longrightarrow 0$ verall Erase Current Adjustment (14-1)

Replacement of AUDIO/CTL Head

Audio Head Zenith Adjustment (9-6-2) — Audio Head Azimuth Adjustment (9-6-3) — Audio Head Height Adjustment (9-6-1) — Video Tracking Adjustment (9-3) — FWD/REV Tape Run Overall Adjustment (9-2-6) — Audio Head Height Adjustment (9-6-1) — Audio Head Azimuth Adjustment (9-6-3) — Audio Head Phase Adjustment (9-6-4) — AUDIO/CTL Head Position Adjustment (9-7) — Playback Frequency Response/Level Adjustment (12-6) — Playback Output Level Adjustment (12-7) — Record Level Adjustment (12-17) — Record Current Frequency Response Adjustment (1) (12-18) — Record Current Frequency Response Adjustment (2) (12-19) — Audio Erase Current Adjustment (2) (12-10) — Audio Erase Current Adjustment (3) (12-11) — Record Bias Current Adjustment (1) (12-12) — Record Bias Current Adjustment (2) (12-16)

- Replacement of Time Code Head

 Time Code Head Zenith Adjustment (9-5-3)—Time Code Head Tape-to-Head

 Contact Adjustment (9-5-1)—Time Code Head Height Adjustment (9-5-2)

 Video Tracking Adjustment (9-3)—FWD/REV Tape Run Overall Adjustment (9-2-6)—AUDIO/CTL Head Position Adjustment (9-7)—Time

 Code Playback/Output Level Adjustment (14-4)—Time Code Record Current

 Adjustment (14-5)
- Replacement of Erase Head

 Erase Head Zenith Adjustment (9-4) --- Video Tracking Adjustment (9-3)

 --- FWD/REV Tape Run Overall Adjustment (9-2-6) --- AUDIO/ CTL Head

 Position Adjustment (9-7)
- Replacement of Capstan Motor

 Capstan Free Speed Adjustment (11-3) Pinch Roller Adjustment (9-1)

 Tape Run Adjustment at Threading Guide (1) (9-2-1) Tape Wrinkle Release Adjustment at Pinch Roller (9-2-2) FWD/REV Tape Run Overall Adjustment (9-2-6) Vidio Tracking Adjustment (9-3) AUDIO/CTL Head Position Adjustment (9-7)
- Replacement of Pinch Roller

 Pinch Roller Self-Alignment Adjustment (9-1-3) --- Pinch Roller Zenith

 Adjustment (9-1-4) --- Pinch Roller Azimuth Adjustment (9-1-5) --- Pinch

 Roller Preset Adjustment (9-1-6) --- Tape Run Adjustment at Threading

 Guide (1) (9-2-1) --- Tape Wrinkle Release Adjustment at Pinch Roller

 (9-2-2) --- Video Tracking Adjustment (check) (9-3) --- FWD/REV Tape Run

 Overall Adjustment (9-2-6) --- AUDIO/CTL Head Position Adjustment (check)

 (9-7)
- Threading Ring

 Threading Ring Rotation Adjustment (7-10-1) Ring Drive Gear Engagement Adjustment (7-10-2) Ring Sensor Position Adjustment (7-10-3) Threading Slider Assembly End Position Adjustment (7-10-5) Threading Slider EJECT Position Adjustment (7-10-6) Release Cam Installing Position Adjustment (7-10-7) Pinch Roller Stopper Position Adjustment (9-1-2) Pinch Roller Self-Alignment Adjustment (9-1-3) Pinch Roller Zenith Adjustment (9-1-4) Pinch Roller Azimuth Adjustment (9-1-5) Pinch Roller Preset Adjustment (9-1-6) Tape Run Adjustment at Threading Guide (1) (9-2-1) Tape Wrinkle Release Adjustment at Pinch Roller (9-2-2) Tape Run Adjustment at Correction Guide (A) (9-2-3) Tape Run Adjustment at 6th Guide (9-2-4) Video Tracking Adjustment (9-3) FWD/REV Tape Run Overall Adjustment (9-2-6) AUDIO/CTL Head Position Adjustment (9-7)
- Replacement of Supply Reel Table

 Reel Table Height Adjustment (7-2) EM-1 Board Mounting Position

 Adjustment (7-3) Brake Torque Adjustment (8-3) Supply tension

 Regulator Arm FWD Position Adjustment (7-6) FWD Back Tension

 Adjustment (8-4) Video Tracking Adjustment (9-3) FWD/REV Tape Run

 Overall Adjustment (9-2-6)

Replacement of Brake Band

Supply Tension Regulator Arm FWD Position Adjustment (7-6) FWD Back Tension Adjustment (8-4) FWD/REV Tape Run Overall Adjustment (9-2-6) Video Tracking Adjustment (check) (9-3) AUDIO/CTL Head Position Adjustment (9-7)

Replacement of Take-up Reel Motor

Reel Motor Shaft Slantness Adjustment (7-4) Reel Table Height Adjustment (7-2) EM-1 Board Mounting Position Adjustment (7-3) Take-up Reel Motor Speed Adjustment (11-14) Take-up Reel Motor Current Sensitive Adjustment (8-7) Brake Torque Adjustment (8-3) FWD/REV Tape Run Overall Adjustment (9-2-6) Video Tracking Adjustment (check) (9-3)

Replacement of Supply Reel Motor

Reel Motor Shaft Slantness Adjustment (7-4) — Reel Table Height Adjustment (7-2) — EM-1 Board Mounting Position Adjustment (7-3) — Supply Reel Motor Speed Adjustment (11-15) — Supply Reel Motor Current Sensitive Adjustment (8-8) — Brake Torque Adjustment (8-3) — Supply Tension Regulator Arm FWD Position Adjustment (7-6) — FWD Back Tension Adjustment (8-4) — FWD/REV Tape Run Overall Adjustment (9-2-6) — Video Tracking Adjustment (check) (9-3) — AUDIO/CTL Head Position Adjustment (9-7)

Replacement of Tension Detector
Tension Detector Adjustment (8-5)

SECTION 7 LINK AND DRIVE SYSTEM ALIGNMENT

(PREPARATION)

When the adjustment in this section is attempt, there are few items to need operating as follows.

(1) Removal of Cassette-up Compartment

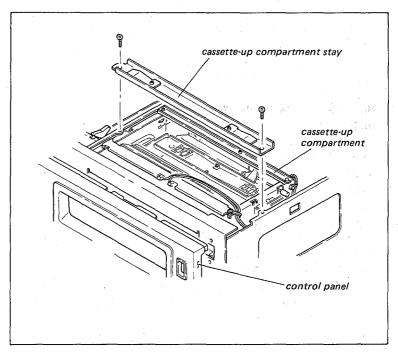
Remove the upper panel, each side ornamental panels.

Loosen the right and left sides fixing screws of control panel.

Remove the cassette-up compartment stay.

Disconnect the connector of the cassette-up compartment.

And bring up the cassette-up compartment from the machine.



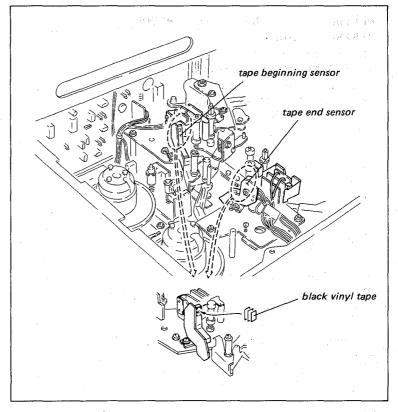
(2) Muting of Tape Beginning Sensor and Tape End Sensor

There are two sensors to detect the tape beginning and the tape end and to operate the AUTO STOP near the supply and take-up reel tables. When the machine is operated without inserting the cassette-tape, it is necessary to mute this function.

Cut a piece of black vinyl tape into a piece of 1 cm x 1.5 cm long and place it over to each photo-transistors. Light will path through one or two pieces of tape so that three pieces of black vinyl tape should be over-lapped.

(CAUTION)

Never forget to remove the black vinyl tape from the two photo-transistors. If the machine is placed into the F.FWD or REW mode without removing the black vinyl tape, the machine cannot detect the tape beginning or tape end. So the machine connot operate the AUTO STOP operation. The tape and the machine are put into the dangerous situation.



(3) Module Extender

Be sure to turn off power before inserting or removing printed circuit board. Do not touch the connector of printed circuit board.

(4) Muting of TAPE PROTECTION Signal

When the machine is put into the PLAY, FF or REW mode without inserting the cassette tape, it is necessary to mute the TAPE PROTECTION signal for the tape protection. These operations are as follows.

.Remove the RS-4 board.

Insert the extension board into this position and insert the RS-4 board to the end of the extension board.

Short between TP512 and TP514/RS-4 with short clip lead.

(5) Muting of THREADING MOTOR DISABLE Signal

It is necessary to stop the THREADING MOTOR DISABLE signal so that the machine is putted into the threading or unthreading mode without inserting the cassette tape.

These operations are as follows.

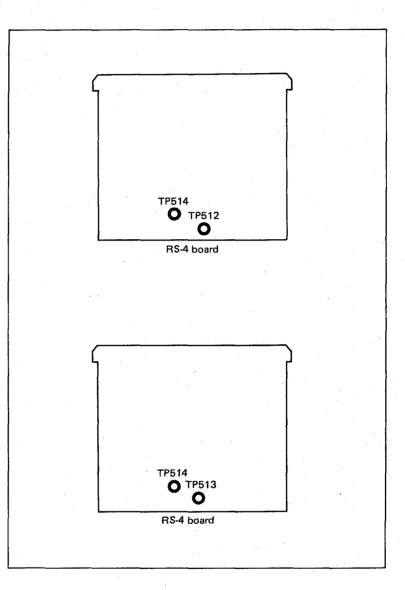
Remove the RS-4 board from the machine

Insert the extension board into this position and insert the RS-4 board to the end of the extension board.

Short between TP513 and TP514/RS-4 with short clip lead.

(6) Cassette Insertion in Alignment

The tape does not insert except the particular appointment in this alignment.



- (7) Definition of Mode and Procedure to Put the Machine into the Certain Mode without Cassette Tape.
 - •EJECT Completion Mode.

 The states that the 5th guide, 6th guide and the supply tension regulator arm return to the EJECT position completely. The machine is put into the mode as mentioned above to press the EJECT button.
 - •STOP Mode
 The states that the threading ring turns into the clockwise direction as far as it will go and the pinch roller is positioned in front of the capstan shaft.

Turn on the power after mute the functions of tape beginning and end sensors. One or two seconds later.

One or two seconds later, start the threading operation automatically and put the machine into the STOP mode.

•PLAY Mode Stop the functions of the TAPE PROTECTION signal and THREAD-ING DISABLE signal. Put the machine into STOP mode

as mentioned above and press the PLAY button.

Grasp the supply and take-up reel tables by hand. The machine is putted into the PLAY mode automatically.

7-1. CASSETTE RETAINER HEIGHT ADJUSTMENT

Tool:

Reel table height check base jig Thickness gauge

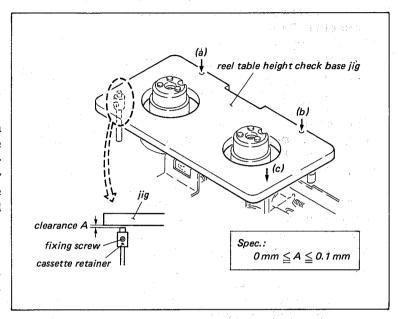
Mode:STOP

Check procedure:

Check that the clearance between the base jig and the cassette retainer meets the required specification while pushing lightly the reel table height check base jig marked (a), (b) and (c) toward the chassis.

Adjustment procedure:

Adjust the position of the cassette retainer to meet the required specification.



7-2. REEL TABLE HEIGHT ADJUSTMENT

Since the reel table height from the chassis functions as the reference height in the entire tape thread and run system, it is required that the reel table height adjustment should be attempted carefully, and deliberately.

Tool:

Reel table height check base jig Reel table height check jig Screw (4 x 30) Allen wrench (each edge has 1.5mm)

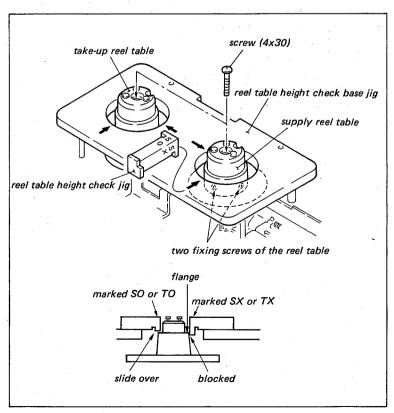
Mode:Power off mode

Check procedure:

Check that the probes of the reel table height check jig marked "SO" and "TO" can slide over the reel table leaving a space between the jig and the reel table, while the probes marked "SX" and "TX" are blocked, and cannot slide over reel table.

Use the "SO" and "SX" probes for the supply reel table.

Use the "TO" and "TX" probes for the take-up reel table.



Adjustment procedure:

- (1) Thread the screw (4 x 30) at the center of the reel table as far as it will go.
- (2) Loosen the two fixing screws of the reel table.
- (3) Turn the threaded screw to meet the required specification. When heigher the reel table, press it lightly while turning the screw to the counterclockwise direction.
- (4) After adjusting, tighten the screws at the side of reel table and check height again.

7-3. EM-1 BOARD MOUNTING POSITION ADJUSTMENT

Tool: Thickness gauge

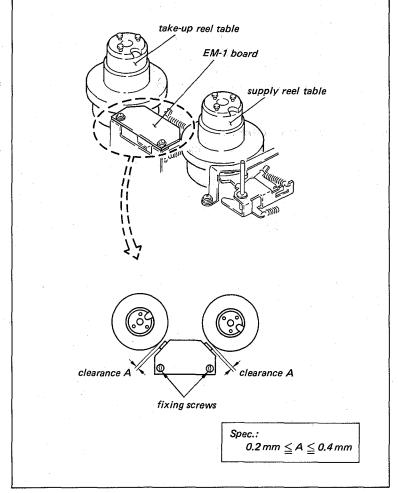
Mode:STOP

Check procedure:

Check that the clearance meets the required specification.

Adjustment procedure:

Adjust the EM-1 board mounting position.



7-4. REEL MOTOR SHAFT SLANTNESS ADJUSTMENT

This adjustment is required only when the reel motor is replaced or removed.

Tool:

Reel table height check base jig Reel motor shaft slantness check jig

Mode:EJECT completion

Preparation:

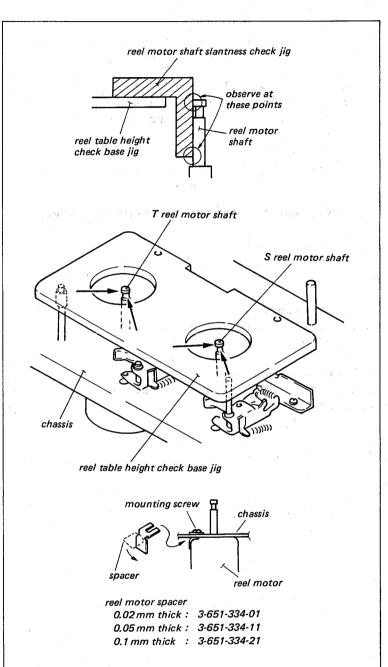
Loosen the two screws at the side of reel table and remove the reel table.

Check procedure:

Check that there is little clearance between the jig and the reel motor shaft at the upper or the lower portion as visual, when the reel motor shaft slantness check jig is set on the reel motor shaft from two directions as shown in figure.

Adjustment procedure:

Loosen the three fixing screws. Insert the reel motor spacer between the reel motor and the chassis to meet the required specification.



7-5. S TENSION REGULATOR ARM FF POSITION ADJUSTMENT

Tool: Extension board

Mode: STOP

Preparation:

(1) Mute the tape beginning sensor and the tape end sensor.

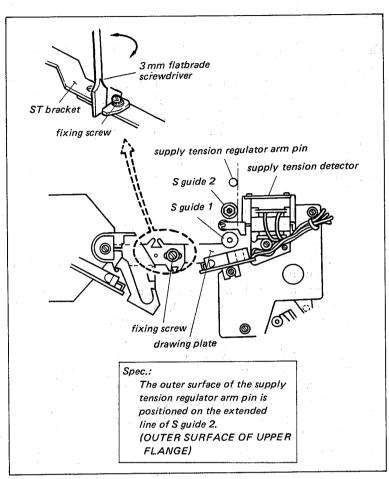
(2) Mute the TAPE PROTECTION signal and the THREADING MOTOR DISABLE signal.

(3) Turn the power on and put the machine into STOP mode. Turn the power off.

Check procedure:

Check that the positional relationship between the S tension regurator arm pin and the S guide (2) meets the required specification.

- (1) Loosen the fixing screw of the ST bracket about 1/2 turns.
- (2) Insert a flatbrade 3mm screwdriver into a notch, and move the ST bracket by turning the screwdriver slowly to meet the required specification.
- (3) Tighten the screw while pressing the ST bracket against the drum.



7-6. SUPPLY TENSION REGULATOR ARM FWD POSITION ADJUSTMENT

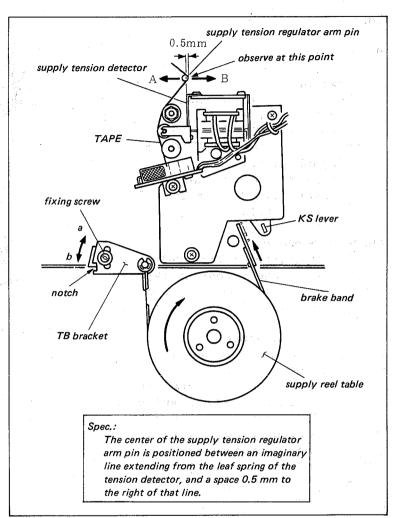
Tool: KCS-20 cassette tape

Check procedure:

While playing back the begining of KCS-20 cassette tape, check that positional relationship of supply tension regulator arm pin and the supply tension detector meets the specification.

If not, perform the adjustment procedure.

- (1) Remove the KCS-20 cassette tape.
- (2) Loosen the fixing screw about 1/4 turn.
- (3) Insert a flatblade 3mm screwdriver into the notch of the TB bracket, and move the TB bracket in the direction shown by the arrow. Check that the positional relationship is in the specification in the same manner as check procedure. If supply thension regulator arm pin is positioned at A side then, turn the TB bracket to "a" direction. And if it is on B side,
- it to "b" direction. (4) Perform FWD back
- tension adjustment.



7-7. CASSETTE-UP COMPARTMENT ADJUSTMENT

7-7-1. IN Switch Position Adjustment

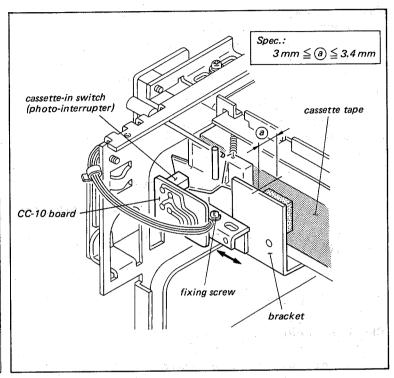
Tool:

KCA-60 cassette tape Thickness gauge Circuit tester

Preparation:

(1) Connect the connector CN19 of the harness for cassette-up compartment and the terminal on the CC-9 board with the jumper leads.

connector of harness	terminal on CC-9 board
4 pin (5 V) -	— 4 pin/CN1
5 or 2 pin - (GND)	5 or 2 pin/ CN1



(2) Turn on the power.

Check procedure:

- (1) Connect the circuit tester to 2 terminal on CC-9 board.
- (2) Insert a KCA-60 cassette tape slowly.
- (3) Check that the clearance between the front side of the cassette tape and the bracket of cassette-up compartment meets the required specification when the circuit tester is turned "H" level.(about 5 V)

Adjustment procedure:

Adjust the position of the cassettein switch in the direction of the arrow to meet the required specification.

Adjusting procedure;

Insert a 3.3mm thickness gauge between cassette tape and bracket. Adjust the position of the cassettein switch so that the tester is turned to "H" in this position.

7-7-2. DOWN Switch Position Adjustment

Tool:Circuit tester

Preparation:

(1) Connect the connector of the harness for cassette-up compartment and the terminal on CC-9 board with the jumper leads.

connector of harness	terminal on CC-9 board
4 pin (5 V) ←	→ 4 pin/CN1
5 or 2 pin - (GND)	5 or 2 pin/ CN1

(2) Turn on the power.

Check procedure:

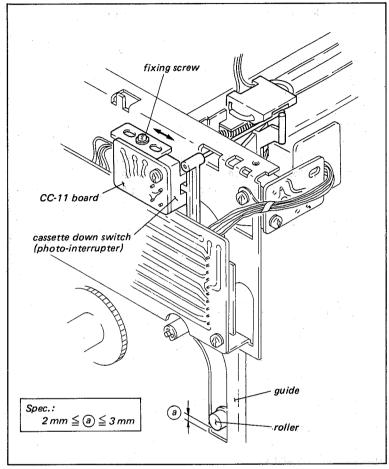
- (1) Connect the circuit tester to 5 terminal on CC-9 board.
- (2) Turn the white colored gear on the right side of the cassetteup compartment in the clockwise direction.
- (3) When the circuit tester is turned to "H", check that the clearance between the roller and the guide meets the required specification.

Adjustment procedure:

Adjust the position of the cassettedown switch in the direction of the arrow to meet the required specification.

Adjusting procedure;

Turn the gear on the right side so that the clearance between the roller and the guide is 2.2mm clearance. Adjust the position of the cassette-down switch so that the circuit tester is turned to "H" in this position.



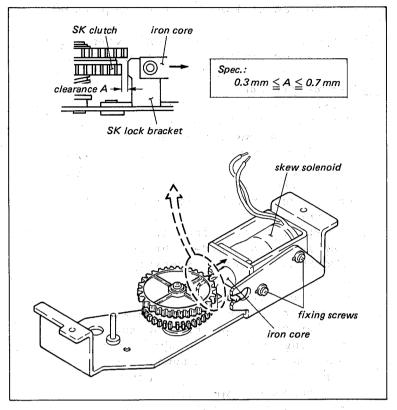
7-8. SKEW SOLENOID MOUNTING POSITION ADJUSTMENT

Check procedure:

- (1) Push the iron core into the fully energized position as far as it will go.
- (2) Check that the clearance between the white colored SK clutch and SK lock bracket meets the required specification as visual.

Adjustment procedure:

Adjust the mounting position of the skew solenoid to meet the required specification.

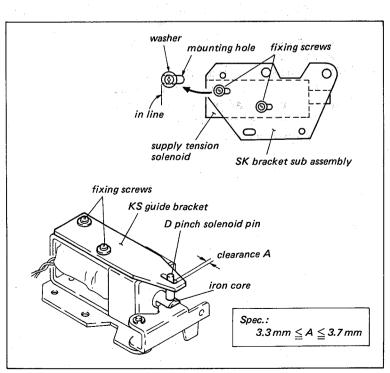


7-9. SUPPLY TENSION SOLENOID MOUNTING POSITION ADJUSTMENT

Remove the supply tension solenoid from the machine in this adjustment.

Tool:Thickness gauge

- (1) Attach the supply tension solenoid to the KS bracket sub assembly so that meets the relationship between the washer and the bracket as shown in figure.
- (2) Push the iron core into the energized position with finger, and attach the KS guide bracket so that the positional relationship between KS guide bracket and D pinch solenoid pin meets the specification.

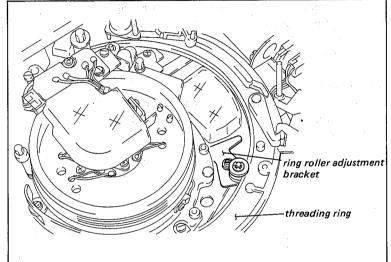


7-10. THREADING SYSTEM ADJUSTMENT

7-10-1. Threading Ring Rotation Adjustment

This adjustment is required only when the threading ring is replaced or removed. It is usually not required.

- (1) Loosen the screw of the ring sensor.
- (2) Cancel the engagement of the ring drive gear and the threading ring.
- (3) Remove the protector (R) above the ring roller adjustment bracket.
- (4) Adjust the position of the ring roller adjustment bracket to meet the required specification.
 - Adjusting procedure; Insert a 0.3mm thick paper between the threading ring and the ring roller. Paper of this maintenance manual is 0.1mm thick so that the three fold becomes 0.3mm thick.
- (5) Check that the rotation of the threading ring is smooth when it rotates to clockwise and counterclockwise directions several times with finger. (If rotation becomes heavy in specific position, perform the procedure (4) in that position.)
- (6) After this adjustment, perform the sec.7-10-2 Ring Drive Gear Engagement Adjustment and sec.7-10-3 Ring Sensor Position Adjustment.



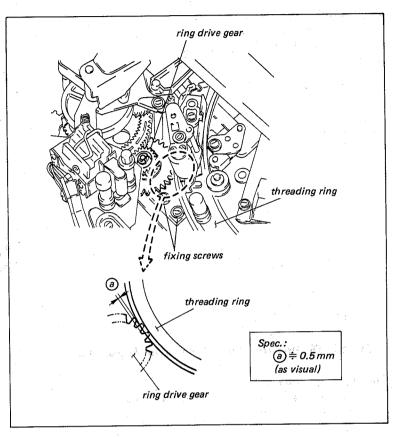
7-10-2. Ring Drive Gear Engagement Adjustment

Mode:

Engage the 5th guide in the V guide to turn the pully of threading motor with finger.

Adjustment procedure:

- (1) Adjust the ring drive gear position so that the position nal relationship between the ring drive gear and the threading ring meets the required specification.
- (2) Repeat the threading/unthreading mode two or three times and check that the rotation are smooth.
- (3) After adjustment, perform the Ring Sensor Position Adjustment.

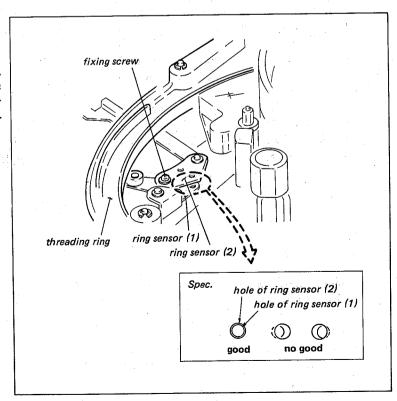


7-10-3. Ring Sensor Position Adjustment

Mode: EJECT completion

Adjustment procedure:

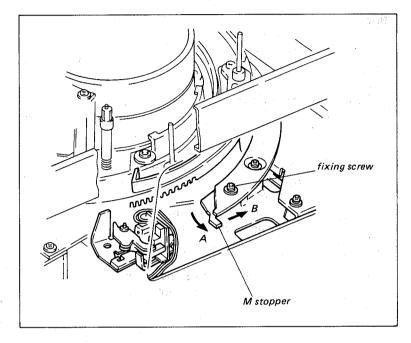
Remove the screw and put the ring sensors (1) and (2) so that the positional relationship of their holes meets the required specification.



7-10-4. M Stopper Mounting Position Adjustment

Adjustment procedure:

Install the M stopper to put aside the A and B directions as far as it will go.

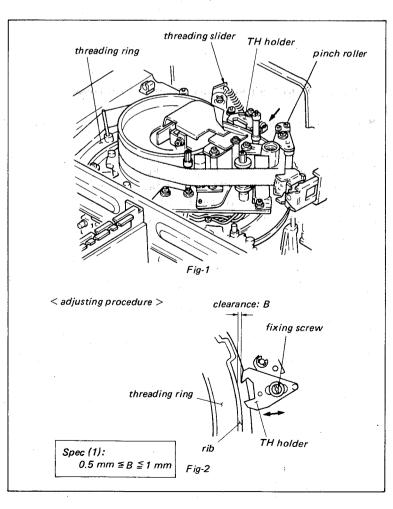


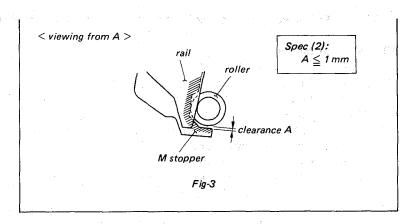
7-10-5. TH Holder End Position Adjustment

Check procedure:

- Insert a KCA-60 cassette tape (use the end portion of the tape).
- (2) Turn off power in the moment when the pinch roller comes in front of the audio/CTL head.
- (3) Check that the clearance B meets the required specification (1) as shown in Fig.2. If not, perform the following adjustment.
- (4) Turn on power. Put the machine into the STOP mode.
- (5) Check that the positional relationship between the roller and the M stopper meets the required specification (2) as shown in Fig.3.
- (6) Repeat the EJECT and STOP modes two or three times. Check as procedure (5).

- (1) Adjust the position of the TH holder to meets the required specification (1).
- (2) After adjustment, check as procedures (4) to (6) of check procedure.



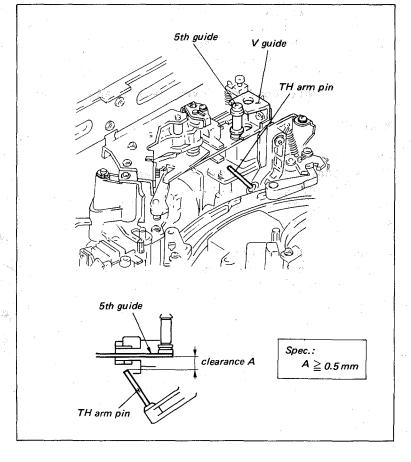


7-10-6. Threading Slider EJECT Position Adjustment

Mode: EJECT completion

Check procedure:

Check that the clearance between the 5th guide and the TH arm pin meets the required specification.



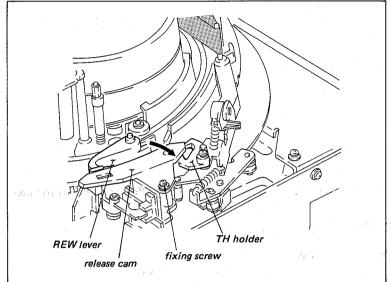
7-10-7. Release Cam Installing Position Adjustment

Check procedure:

- (1) Insert a KCA-60 cassette tape (use the beginning portion of the tape) and put the machine into the STOP mode.
- (2) After turn off the power, turn on again and put the machine into unthreading mode.
- (3) Check that the REW lever lockes to the TH holder.

Adjustment procedure:

- (1) Adjust the position of the release cam in the direction of the arrow so that meets the specification.
- (2) After this adjustment, check as the check procedure.



7-10-8. Photo Coupler Cover Height Adjustment

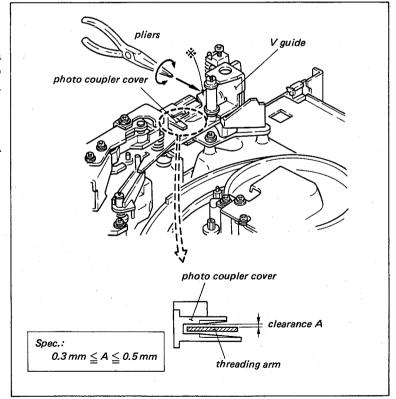
Mode:STOP

Check procedure:

Check that the clearance between the threading arm and the photo coupler cover meets the required specification.

Adjustment procedure:

Adjust to bend the * marked portion of the V guide with pliers.



7-10-9. 5th Guide Operating Position Adjustment

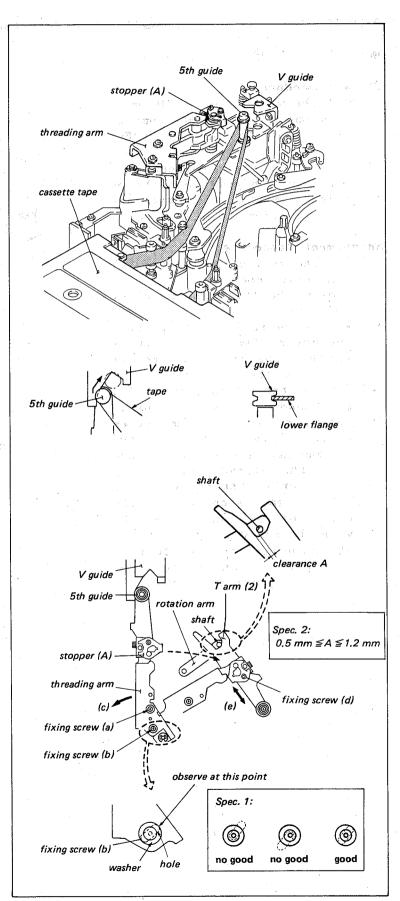
Tool:KCS-20 cassette tape

Mode:STOP → EJECT

Check procedure:

- (1) Energize the tape beginning/end sensors.
- (2) Put the KCS-20 cassette-tape (use the end portion of the tape). Turn the T reel hub in the counterclockwise direction with finger as far as it will go.
- (3) Insert the cassette-tape to the machine in the power off mode.
- (4) Turn on the power and put the machine into the threading mode. Check that the 5th guide fits the V guide as shown in figure.
- (5) Repeat the EJECT and STOP modes several times. Check again.

- (1) Remove the cassette tape.
- (2) Put the machine into STOP mode. Put the 5th guide on the position as shown in figure according to turn the pully of threading motor with finger.
- (3) Loosen the fixing screws (a) and (b), and slide the threading arm in the direction of the arrow (c). Adjust the position of threading arm so that the relationship between the washer of screw (b) and screw hole of threading arm meets the specification (1).
- (4) Turn the pully of threading motor so that the T arm (2) is in the position as shown in figure.
- (5) Loosen the fixing screw (d) and then slide the stopper (A) in the direction of the arrow (e). Adjust that the positional relationship of the rotation arm shaft and the T arm (2) meets the specification (2) as shown in figure, and tighten the screw.



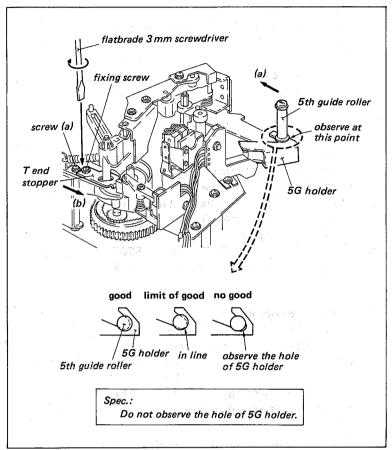
7-10-10. 5th Guide Unthreading Position Adjustment

Mode:STOP EJECT completion

Check procedure:

- (1) Put the machine into STOP mode once and put into EJECT completion mode by pushing EJECT button.
- (2) Check that the clearance between the 5th guide and the 5G holder meets the required specification.

- (1) Put the machine into the EJECT completion mode.
- (2) Loosen the fixing screw about two turns.
- (3) Rotate the pully of the threading motor two or three turns so that the 5th guide roller fits into the 5G holder.
- (4) Tighten the fixing screw once, and loosen it about 1/2 turn.
- (5) Insert a flatbrade 3mm screw driver between the T stopper and the screw (a) and turn the screwdriver in the direction of the arrow. Т end stopper in direction of the arrow with the screwdriver until the 5th guide roller gets to move in the direction of the arrow (a) and tighten the screw.



7-10-11. T End Sensor Position Adjustment

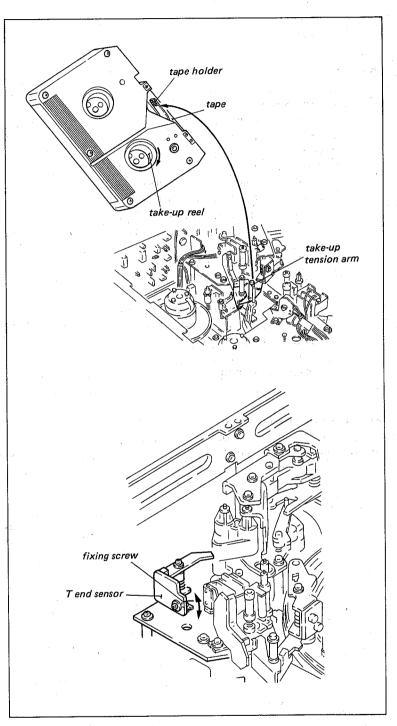
Tool:KCS-20 or KCA-60 cassette tape

Check procedure:

- (1) Turn off the power.
- (2) Turn the take-up reel hub of cassette tape with finger, and remove the slack of tape.
- (3) Fully open the lid of cassette tape and insert the cassette tape so that the take-up tension arm is placed between the cassette tape and the tape holder.
- (4) Turn the pully of the gear box and bring the take-up tension arm into contact with the tape.
- (5) Turn on the power. Check that the machine is putted into the threading mode after the takeup tension arm moves toward the reel table side once.

Adjustment procedure:

Adjust the position of the T end sensor to meet the required specification.



7-10-12. Take-up Tension Arm, Unthreading Position Adjustment

Tool:KCS-20 or KCA-60 cassette tape

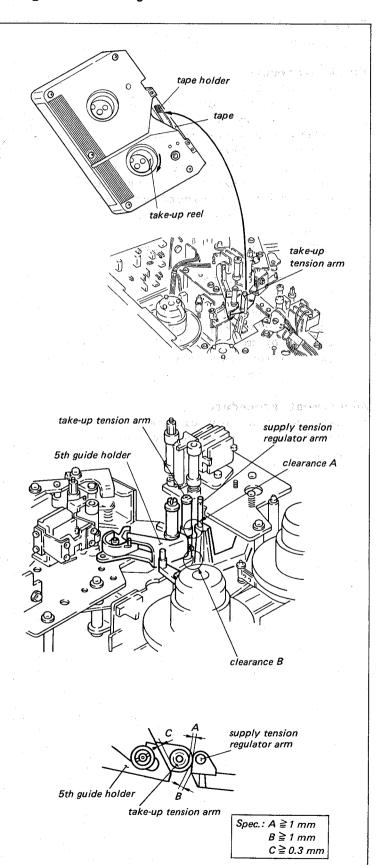
Mode: EJECT completion

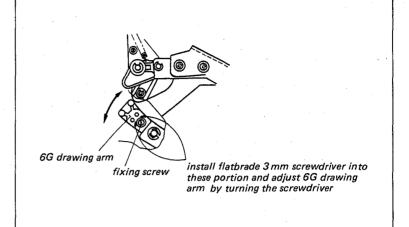
Check procedure:

- (1) Turn the take-up reel hub of cassette tape with finger, and remove the slack of tape.
- (2) Fully open the lid of cassette tape and insert the cassette tape so that the take-up tension arm is placed between the cassette tape and the tape holder.
- (3) Check that the tape does not contact with the take-up tension arm.
- (4) Check that the positional relationship of the take-up tension arm, 5th guide holder and the S tension regulator arm meets the required specification.

Adjustment procedure:

Adjust the position of the 6G drawing arm to meet the required specification.







SECTION 8 BACK TENSION AND TORQUE ALIGNMENT

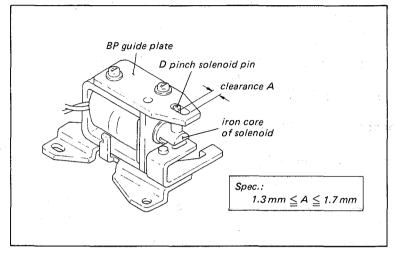
8-1. BRAKE SOLENOID MOUNTING POSITION ADJUSTMENT

This machine has the brake solenoid independently for the supply and the take-up reel tables. Adjusting procedures of the supply and the take-up sides in the same way.

Tool: Thickness gauge

Adjustment procedure:

After the iron core of the solenoid is pushed with finger to set up the energized state, adjust the position of the BP guide plate to meet the required specification.



8-2. BRAKE LEVER ADJUSTMENT

This machine has the reel brake independently for the supply and the take-up reel tables. Perform this adjustment independently for the T reel brake and the S reel brake.

Tool: Thickness gauge

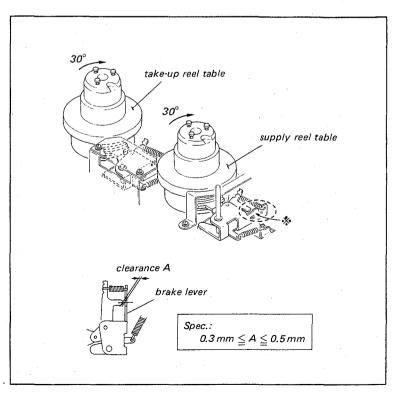
Mode: EJECT completion

Check procedure:

Grasp the reel table by hand and turn to the clockwise direction about 30 degrees. Check the clearance A to meet the required specification.

Adjustment procedure:

Bend the * marked portion of the brake lever to meet the required specification with a pliers.



8-3. BRAKE TORQUE ADJUSTMENT

This machine has the reel brake independently for the supply and the take-up reel tables. Perform this adjustment independently for the T reel brake and the S reel brake.

Tool:

Reel table torque measurement tape (100 mm dia.)
Tension scale (200 g full scale)

Preparation:

Remove the handle bracket on the right side of the set.

Mode: EJECT completion

Check procedure:

Install the jig tape on the reel table. Pull out the tape at a constant speed of approx 9.5 cm/sec. and confirm that the scale reading is in the specification.

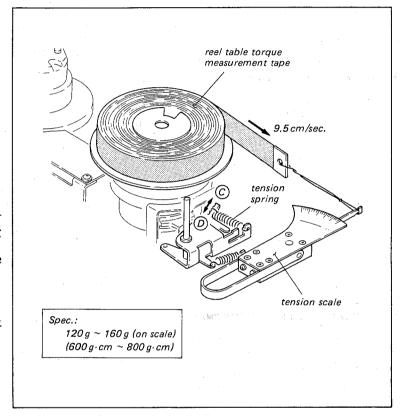
Adjustment procedure:

- (1) Select the proper spring hook to meet the specification.
 - © direction: increases brake
 - torque

 ① direction: decrease brake

torque

(2) It is not to meet the specification, replace the brake shoe.



8-4. FWD BACK TENSION ADJUSTMENT

Tool:

Back tension adjustment jig Reel table torque measurement tape (100 mm dia.)

Tension scale (100 g fullscale) Allen wrench (each edge has 2 mm)

Preparation:

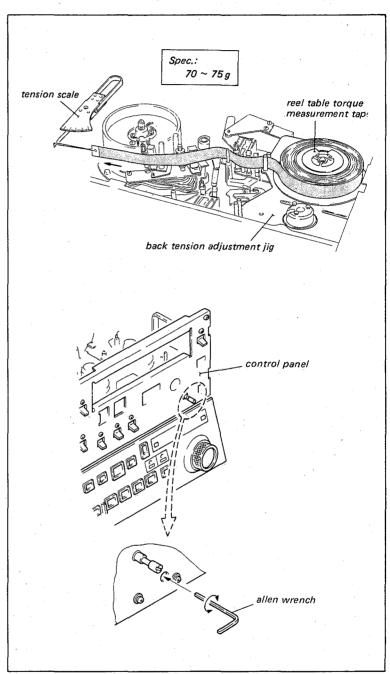
- (1) Mute the tape beginning sensor and tape end sensor.
- (2) Mute the TAPE PROTECTION and the THREADING MOTOR DISABLE signals.
- (3) Open the connector panel. Disconnect all connectors of the RP-5-1 board and remove the RP-5-1 board from the chassis.
- (4) Turn on the power and put the machine into PLAY mode.
- (5) Set the SKEW control knob to its center click (detent) position.
- (6) Install the back tension adjustment jig.
- (7) Install the jig tape on the supply reel table and thread a tape as shown in figure. (CAUTION)

Take care that the head drum is rotating in a high speed.

Check procedure:

- (1) Hook a tension scale on an end of the tape. Pull out the tape at a constant speed of approx 9.5 cm/sec. and confirm that the scale reading is in the specification.
- (2) After check and adjustment, remove the jig tape and back tension adjustment jig. Press the EJECT button.

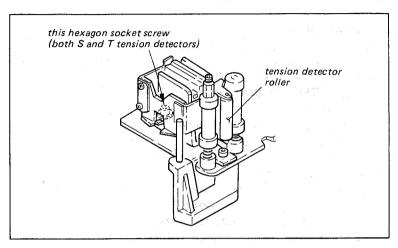
- (1) Insert the allen wrench into the hole on the control panel as shown in figure. And turn the hexagon socket screw to meet the adjustment specification.
- (2) If it is not to meet the specification, replace the brake band assembly.



8-5. TENSION DETECTOR ADJUSTMENT

(CAUTION)

Do not loosen the screw as in figure. The position of tension detector roller is determined by this screw. This screw is adjusted precisely with a jig in the factory.



8-5-1. Tension Detector Stopper Position Adjustment

This adjustment is required only when the tension detector is replaced or removed. This stopper controls the operating range of the tension detector.

If this adjustment is poor, the optimum tape tension and the normal tape movement being not expected.

This machine has tension detectors at the supply and the take-up reel sides. The adjustment procedure descrebed is only for the take-up side but can be applied on the operation at the supply side.

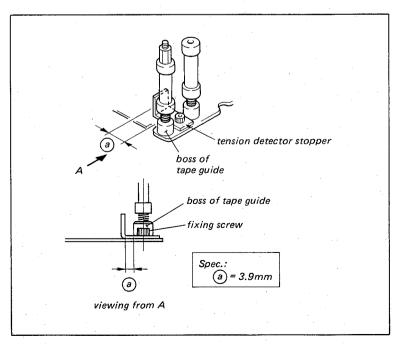
Tool:Slide vernier caliper or equivalent

Check procedure:

Check that the positional relationship between tape guide shaft and stopper to meet the specification.

Adjustment procedure:

Adjust the position of the stopper to meet the required specification.



8-5-2. T Tension Detector Roller Zenith Adjustment

This adjustment is performed to install the tension detector in the machine.

Tool:

Allen wrench (each edge has 2 mm) Flatness plate

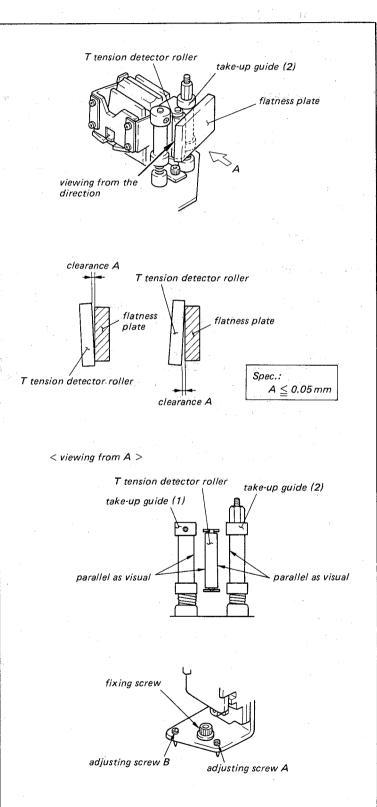
Mode: STANDBY

Check procedure:

- (1) Check that the clearance between the detector roller and the flatness plate meets the required specification, when the flatness plate is set on the take-up guide (2) as shown in figure and the flatness plate is touched lightly with the T tension detector roller.
- (2) Check that the tension detector roller parallels with the take-up guide (1) and (2) viewing from the direction of the arrow A.

- (1) If the check procedure (1) is out of specification. When the clearance is out of the top portion, spec. at loosen the fixing screw and turn the adjusting screw (A) in clockwise direction. Tighten the fixing screw and check zenith again. When the clearance is out of spec. at the bottom portion, turn the adjusting screw (A) in counterclockwise direction. Thighten the fixing screw and check zenith again.
- (2) If the check procedure (2) is out of specification.

 When the clearance is out of spec. at the top portion. loosen the fixing screw and turn the adjusting screws (A) and (B) of exactly equal amount in clockwise direction. Tighten the fixing screw and check zenith again.



When the clearance is out of spec. at the bottom portion, turn the adjusting screws (A) and (B) of exactly equal amount in counterclockwise direction. Thighten the fixing screw and check zenith again.

8-5-3. S Tension Detector Roller Zenith Adjustment

This adjustment is performed to install the tension detector in the machine.

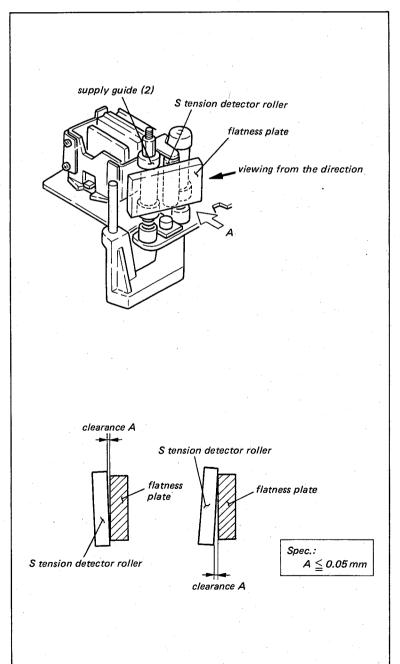
Too1:

Flatness plate
Allen wrench (each edge has 2 mm)

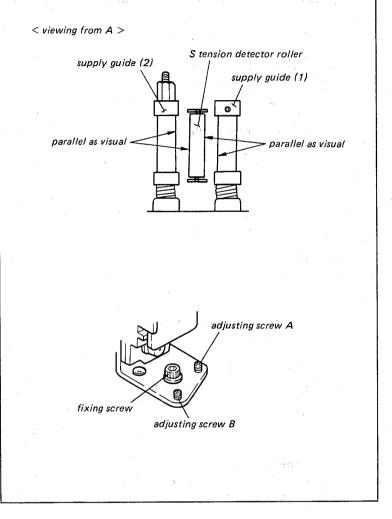
Mode: STANDBY

Check procedure:

- (1) Check that the clearance between the detector roller and the flatness plate meets the required specification, when the flatness plate is set on the supply guide (2) as shown in figure and the flatness plate is touched lightly with the S tension detector roller
- (2) Check that the tension detector roller parallels with the supply guide (1) and (2) viewing from the direction of the arrow A.



- (1) If the check procedure (1) is out of specification.
 When the clearance is out of spec. at the top portion, loosen the fixing screw and turn the adjusting screw (A) in clockwise direction.
 Tighten the fixing screw and check zenith again.
 When the clearance is out of spec. at the bottom portion, turn the adjusting screw (A) in counterclockwise direction.
 Thighten the fixing screw and check zenith again.
- (2) If the check procedure (2) is out of specification. When the clearance is out of spec. at the top portion. loosen the fixing screw and turn the adjusting screws (A) and (B) of exactry equal amount in counterclockwise direction. Tighten the fixing screw and check zenith again. is out of When the clearance spec. at the bottom portion, turn the adjusting screws (A) and (B) of exactly equal amount in clockwise direction. Thighten the fixing screw and check zenith again.



8-6. OPERATION CHECK AND ADJUSTMENT OF TENSION DETECTOR

The operational points of the supply side and take-up side tension detectors are determined at the two points i.e. the 0 g tape tension point and the 100 g tape tension point. Here the check and adjustment for operational point are descrived.

8-6-1. Supply Tension Detector O Gram Point Adjustment

Mode: EJECT

Tool:

Extension board DC boltmeter (Digital multimeter)

Preparation:

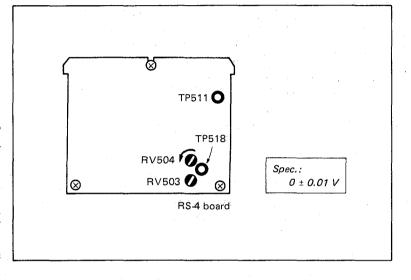
- (1) Turn the RV504/RS-4 board to the counterclockwise direction as far as it will go. Do not turn these variable resistors except when the RS-4 board replacement is performed.
- (2) Connect (-) termian1/DC voltmeter to TP511/RS-4 board and
 (+) termena1/DC voltmeter from
 TP518/ RS-4 board.
- (3) Turn on the power.

Check procedure:

Check that the indication of DC voltmeter meets the required specification.

Adjustment procedure:

Adjust the RV503/RS-4 board to meet the required specification.



8-6-2. Take-up Tension Detector 0 Gram Point Adjustment

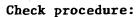
Mode: EJECT

Tool:

Extension board DC voltmeter (Digital multimeter)

Preparation:

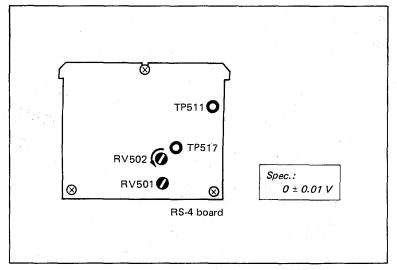
- (1) Turn the RV502/RS-4 board to the counterclockwise direction as far as it will go. Do not turn these variable resistors except when the RS-4 board replacement is performed.
- (2) Connect (-) terminal/DC voltmeter to TP511/RS-4 board and
 (+) termian1/DC voltmeter to
 TP517/RS-4 board.
- (3) Turn on the power.



Check that the indication of DC voltmeter meets the required specification.

Adjustment procedure:

Adjust the RV501/RS-4 board to meet the required specification.



8-6-3. Supply Tension Detector 100 Gram Point Adjustment

Mode: STANDBY

Tool:

DC voltmeter (Digital multi-meter)

Locally-Specially-Made-Tape (prepare this tape referring follows)

Cut a tape into 20 cm long. Attach an adhesive tape on an end of the tape as shown in figure. Make a hole on the adhesive tape. Make a loop of 6 cm long string through the hole. Make a circle about 1 cm dia. from another end of the tape and fix the tape by a adhesive tape.

Tension scale (100 g full scale) Extension board

Preparation:

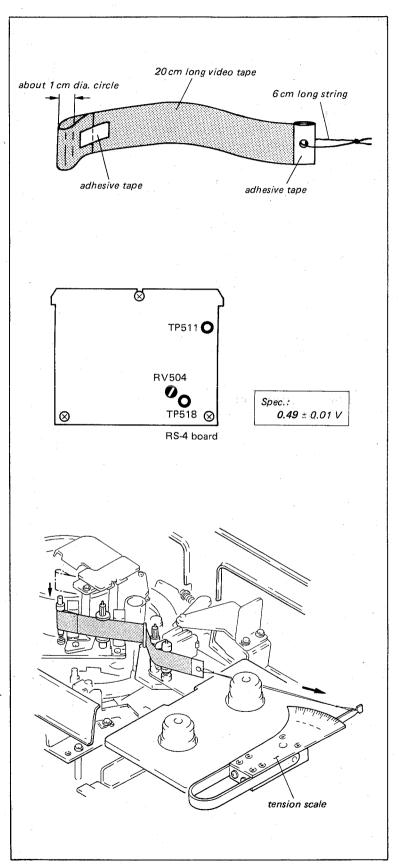
- (1) Connect (-) terminal/DC voltmeter to TP511/RS-4 board and (+) terminal/DC voltmeter to TP518/RS-4 board.
- (2) Mute the tape beginning sensor and tape end sensor.
- (3) Mute the TAPE PROTECTION and the THREADING MOTOR DISABLE signals.
- (4) Put the machine into the STOP mode. Grasp the take-up and supply reel tables by hand and press the STANDBY button.

Check procedure:

- (1) Thread the special jig tape as shown in figure, and hook a tension scale on an end of the tape.
- (2) Move the tension scale slowly to as shown in figure direction and sets the scale 100 ± 5 g. When the scale reading is over 105 g, put the tension scale reading into 80 g once, and sets the scale 100 + 5 g.
- (3) Check that the indication of the DC voltmeter meets the required specification.

Adjustment procedure:

Adjust the RV504 to meet the required specification.



8-6-4. Take-up Tension Detector 100 Gram Point Adjustment

Mode: STANDBY

Tool:

DC voltmeter (Digital multimeter) Locally-Specially-Made-Tape (referring sec. 8-6-3) Tension scale (100 g full scale) Extension board

Preparation:

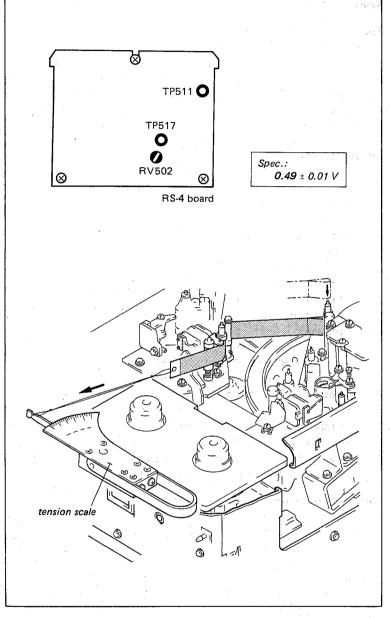
- (1) Connect (-) terminal/DC voltmeter to TP511/RS-4 board and (+) terminal/DC voltmeter to TP517/RS-4 board.
- (2) Mute the tape beginning sensor and tape end sensor.
- (3) Mute the TAPE PROTECTION and the THREADING MOTOR DISABLE signals.
- (4) Put the machine into the STOP mode. Grasp the take-up and supply reel tables by hand and press the STANDBY button.

Check procedure:

- (1) Thread the special jig tape as shown in figure, and hook a tension scale on an end of the tape.
- (2) Move the tension scale slowly to as shown in figure direction and sets the scale 100 + 5 g. When the scale reading is over 105 g, put the tensin scale reading into 80 g once, and sets the scale 100 + 5 g.
- (3) Check that the indication of the DC voltmeter meets the required specification.

Adjustment procedure:

Adjust the RV502 to meet the required specification.



8-7. TAKE-UP REEL MOTOR CURRENT SENSITIVE ADJUSTMENT

Mode: EJECT completion

Too1:

Extension board
Reel table torque measurement tape
(100 mm dia.)
Tension scale (100 g full scale)
DC voltmeter

Constant current power supply

Preparation:

- (1) Remove the RS-3 board and insert the extension board. Do not insert the RS-3 board into the end of the extension board.
- (2) Disconnect the CN25 on the RE-3 board.
- (3) Turn on the power. Check that the take-up side reel brake is released.
- (4) Connect (-) terminal of the constant current power supply to TP3/RE-3 board, and (+) terminal to TP4/RE-3 board.
- (5) Connect (-) terminal of the DC voltmeter to Al5/Extension board, and (+) terminal to Al6/Extension board
- (6) Install the torque measurement tape on the take-up reel table.

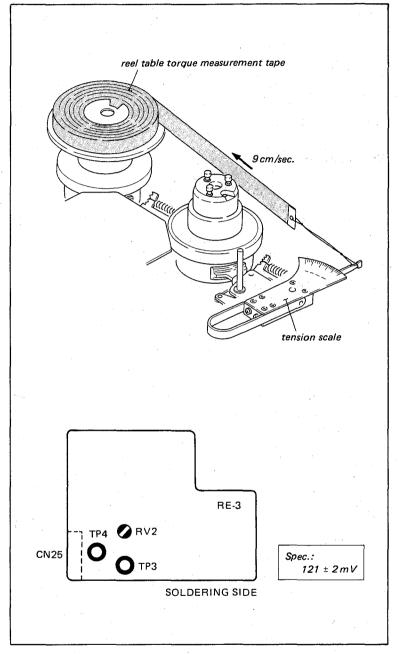
Check procedure:

- (1) Turn the CURRENT control knob of the constant current power supply slightly, perform the procedure (2).
- (2) Hook a tension scale on an end of the tape as shown in figure and let the tape pulled at a constant speed of approx.9 cm/ sec. and repeat the procedure (1) and (2) until the scale reading comes to 96 ± 4 g.

 (If the measuring value fluctuates, take the average reading of the tension scale.)
- (3) When the scale reading is 96 ± 4 g, check that the voltmeter reading meets the required specification.

Adjustment procedure:

Adjust the RV2/RE-3 board to meet the required specification.



8-8. SUPPLY REEL MOTOR CURRENT SENSITIVE ADJUSTMENT

Mode: EJECT completion

Too1:

Extension board
Reel table torque measurement tape
(100 mm dia.)

Tension scale (100 g full scale) DC voltmeter

Constant current power supply

Preparation:

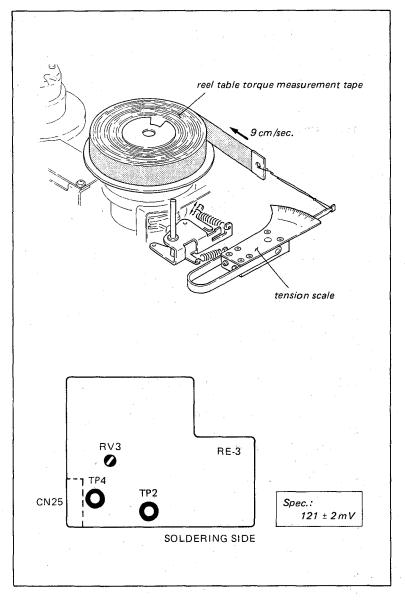
- (1) Remove the RS-3 board and insert the extension board. Do not insert the RS-3 board into the end of the extension board.
- (2) Disconnect the CN25 on the RE-3 board.
- (3) Release the supply side reel brake.
- (4) Turn on the power.
- (5) Connect (-) terminal of the constant current power supply to TP2/RE-3 board, and (+) terminal to TP4/RE-3 board.
- (6) Connect (-) terminal of the DC voltmeter to A17/Extension board, and (+) terminal to A18/Extension board
- (7) Install the torque measurement tape on the supply reel table.

Check procedure:

- (1) Turn the CURRENT control knob of the constant current power supply slightly, perform the procedure (2).
- (2) Hook a tension scale on an end of the tape as shown in figure and let the tape pulled at a constant speed of approx.9 cm/sec. and repeat the procedures (1) and (2) until the scale reading comes to 96 ± 4 g. (If the measuring value fluctuates, take the average reading of the tension scale.)
- (3) When the scale reading is 96 ± 4 g, check that the voltmeter reading meets the required specification.

Adjustment procedure:

Adjust the RV3/RE-3 board to meet the required specification.



8-9. DME FG OUTPUT CHECK

EM-1 Board Mounting Position Adjustment should be completed before initiating this adjustment.

Too1:

Extension board Oscilloscope

Preparation:

- Remove the RS-3 board and insert the extension board into this position. Insert the RS-3 board into the end of the extension board.
- (2) Turn the RV502 and RV504 on the RS-4 board in the clockwise direction as far as it will go. Do not turn these variable resistors except when the RS-4 board replacement is performed.
- (3) Mute the TAPE PROTECTION signal
- (4) Connect the oscilloscope to TP20, 21, 22 or 23 on the RS-3 board as following the check procedures and connect the ground to E 2.
- (5) Turn on the power.

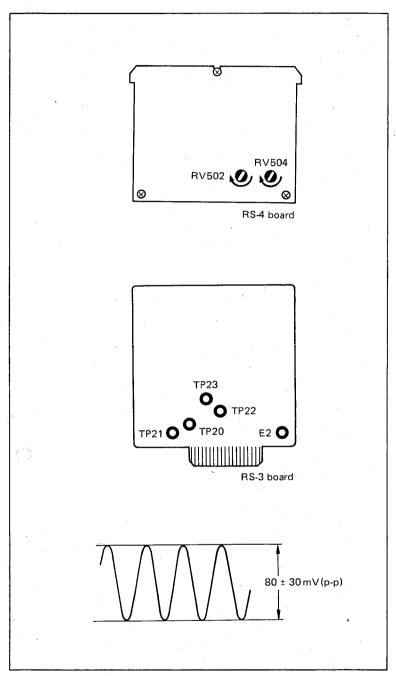
Check procedure:

- (1) When the take-up reel table is turned to the counterclockwise direction by hand, check that the TP20 and 21 outputs meet the required specification.
- (2) When the supply reel table is turned to the counterclockwise direction by hand, check that the TP22 and 23 outputs meet the required specification.

Adjustment procedure:

If it is not, replace DME and check again.

After this adjustment, perform the sec. 8-6-3 Supply Tension Detector 100 Gram Point Adjustment and sec. 8-6-4 Take-up Tension Detector 100 Gram Point Adjustment.



CAPE RUN

SECTION 9 TAPE RUN ALIGNMENT

9-1. PINCH ROLLER ADJUSTMENT

9-1-1. Pinch Lever Right Angle Adjustment

This adjustment is precisely factory-calibrated before shipment so that no adjustment is required except the pinch lever and the capstan shaft replacements.

Tool: Pinch lever adjustment jig

Mode: EJECT Completion

Check procedure:

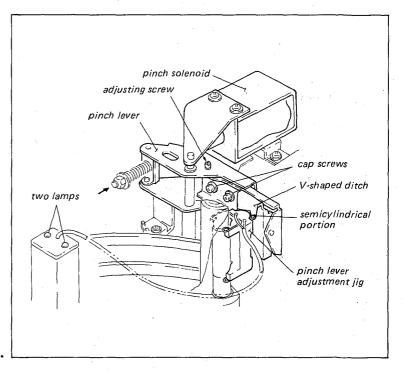
(1) Install the pich lever adjustment jig taking care not to give scar on the capstan.

(2) Push the pinch lever until V-shaped ditch of the pinch lever contacts the semicylindrical portion of the jig lightly. Check that the two lamps of the jig light at the same time.

Adjustment procedure:

(1) Loosen the two cap screws of the pinch lever and adjust the adjusting screw.

(2) After this adjustment, tighten the cap screws and check again.



9-1-2. Pinch Roller Stopper Position adjustment

If the clearance is narrower than the specification, the possible trouble is that the pinch roller pressure against the capstan shaft may be so low that the tape will not be advanced at the proper speed. If, in opposite, the clearance is too much, it is possible that the iron core is not engaged.

Tool: Thickness gauge

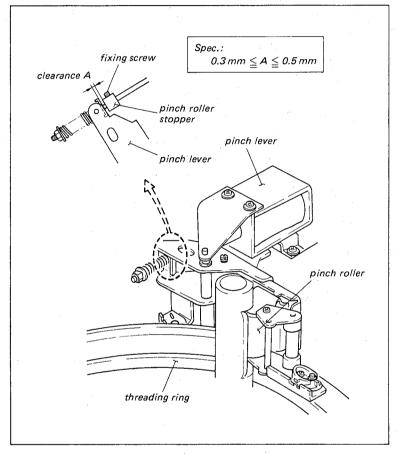
Mode: PLAY

Check procedure:

- (1) Check that the clearance between the pinch roller stopper and the pinch lever meets the required specification using a thickness gauge.
- (2) Repeat pressing the PLAY and STOP buttons two or three times and check that the clearance.

Adjustment procedure:

Adjust the position of the pinch roller stopper.



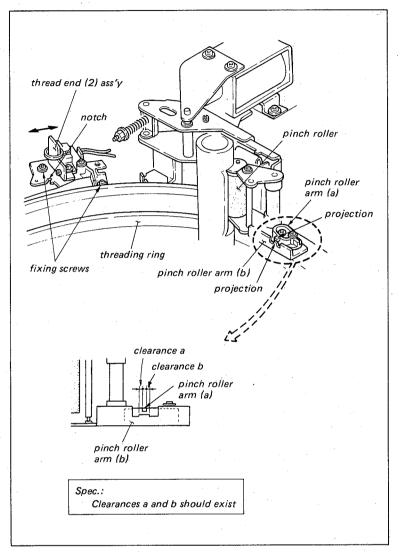
9-1-3. Pinch Roller Self-Alignment Adjustment

Mode: PLAY

Check procedure:

Check that the positional relationship between the pinch roller arm (a) and the pinch roller arm (b) meets the required specification.

- (1) Loosen the fixing screw 1/4 turns of the thread end (2) ass'y.
- (2) Insert a flatbrade 3mm screwdriver into the notch, and move the thread end (2) ass'y in the direction shown by arrow to meet the required specification.
- (3) Repeat the PLAY and EJECT modes two or three times, and check the positional relationship meets the required specification.



9-1-4. Pinch Roller Zenith Adjustment

Mode: STOP

Check procedure:

Push the pinch lever A portion in the direction of the arrow lightly so that the pinch roller contacts the capstan shaft. Check that the positional relationship between the pinch roller and the capstan shaft meets the required specification.

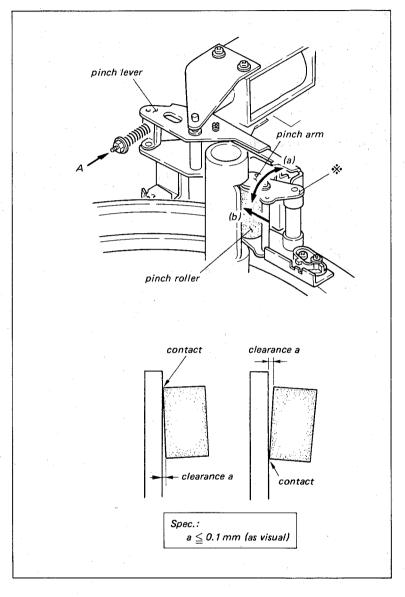
Adjustment procedure:

If the clearance is out of spec. at the bottom portion when the top portion is in contact with the capstan shaft.

 Hold the * marked portion of the pinch arm and bend it in the direction of the arrow (a).

If the clearance is out of spec. at the top portion when the bottom portion is in contact with the capstan shaft.

(2) Hold the * marked portion of the pinch arm and bend it in the direction of the arrow (b).



9-1-5. Pinch Roller Azimuth Adjustment

If this adjustment is poor, possible trouble is that a curl of tape at top and bottom flanges of tape guides (3) and (4), threading guides (1),(2) and (3), is resulted during the period of tape threading and tape will get scar.

Mode: PLAY

Tool:

Inspection mirror(handle)
Inspection mirror(mirror)
Circuit tester
Sony grease

Check procedure:

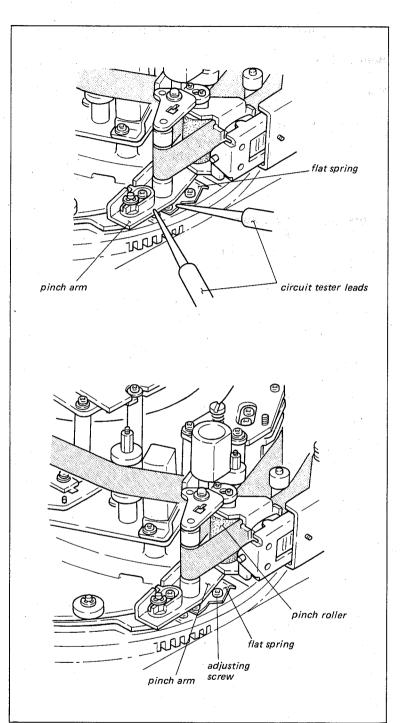
- (1) Insert a KCA-60 cassette tape (use the middle portion of the tape for this adjustment) and put the machine into the threading mode.
- (2) Observe the tape run during the threading at the TG-3, TC-4, threading guides (1), (2) and (3). Check that there exists no tape curl at top and bottom flanges of the tape guides.
- (3) Check to repeat the threading operation two or three times.

Adjustment procedure:

- (1) Turn the adjusting screw to the clockwise direction and put not to contact flat spring to the pinch arm.
- (2) Contact the circuit tester leads to flat spring and pinch arm as shown in figure. Turn the adjusting screw to the counterclockwise direction slowly until the flat spring contacts the pinch arm.
- (3) Check the tape curl as check procedure. Fine-adjust the adjusting screw so that the curl does not exists.
- (4) Put the machine into EJECT completion mode. Push the pinch arm toward the drum ass'y lightly with a finger, and smear sony grease a little onto the projection of the flat spring.

(CAUTION)

Take care not to smear sony grease onto the pinch roller and the guides.



9-1-6. Pinch Roller Preset Adjustment

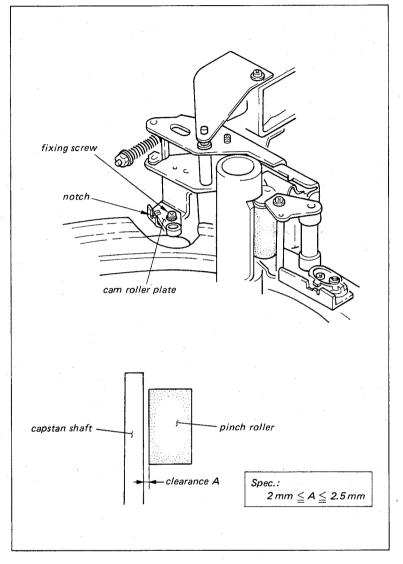
Mode:STOP

Tool: Thickness gauge

Check procedure:

Check that the clearance between the capstan shaft and the pinch roller meets the required specification.

- (1) Loosen the fixing screw of the camroller plate about 1/4 turns.
- (2) Insert a flatbrade 3 mm screwdriver into the notch of the cam roller plate, and adjust the position meets the required specification
- (3) Repeat the EJECT and STOP modes two or three times and check clearance.



9-2. FWD/REV TAPE RUN ADJUSTMENT

9-2-1. Tape Run Adjustment at Threading Guide (1)

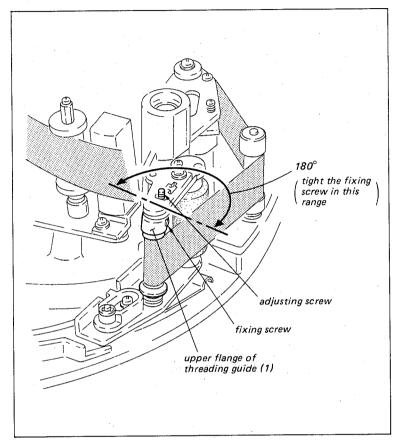
Mode: PLAY / STOP

Tool:Allen wrench (each edge has 0.9mm/1.27mm)

Check procedure:

- (1) Insert a KCA-60 cassette tape (use the middle portion of the tape for this adjustment). Put the machine into the FWD mode(x1). Check that the tape top edge runs in contact with the upper flange of the threading guide (1) without curl.
- (2) Put the machine into the STOP mode. Check that the tape top edge contacts the upper flange of the threading guide (1) without curl.

- (1) Loosen the fixing screw of the flange and adjust to meet the required specification with adjusting screw in the PLAY mode.
- (2) Tighten the fixing screw of upper flange within the range as shown in figure.



9-2-2. Tape Wrinkle Release Adjustment at Pinch Roller

Mode: FWD(x1/30) to FWD(x5)REV(x1/30) to REV(x5)

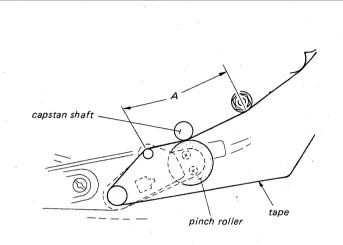
Tool:Allen wrench (each edge has 1.27mm)

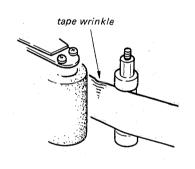
Check procedure:

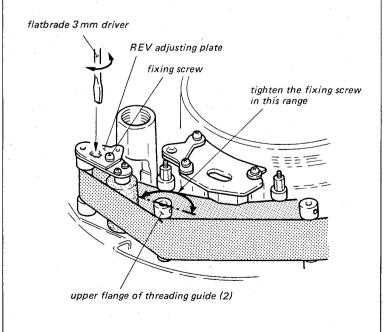
- (1) Insert a KCA-60 cassette tape (use the middle portion of the tape for this adjustment). Put the machine into the REV mode(x1). Observe the surface of the running tape very carefully in the A section as shown in figure. Check that amount of tape tension at the two points is exactly equal i.e., equal at the tape top and tape bottom. The tape wrinkle should be as shown in figure.
- (2) Repeat the FWD(x1/30) to (x5) and the REV(x1/30) to (x5) operation. Observe the surface of the running tape very carefully in the A section as shown in figure. Check that amount of tape tension is exactly equal.
- (3) Put the KCA-60 cassette tape at the tape beginning portion. Put the machine into the FWD(x1) and REV(x1) mode. Check that the tape wrinkle, that is given in the moment of the pinch roller's pressing against the capstan, does disappear within 1.5 second.
- (4) Put the machine into the FWD (x5) and REV(x5) modes. If a scar does not mark, though tape wrinkles does disappear in a moment, it is acceptable.
- (5) Put the tape at the tape end portion. Check that the tape wrinkle as the same manner in steps (3) and (4).

Adjustment procedure:

(1) Fine-adjust the position of upper flange of threading guide (2) to satisfies the specification.







(CAUTION)

Tighten the fixing screw of upper flange within the range as shown in figure.

(2) If the tape tension at the two points does not turn into the exactly equal by step (1), loosen the fixing screw 1/2 to 1/4 turns of REV adjusting plate and insert a flatbrade 3mm screwdriver into the hole, and turn the screwdriver in the direction shown by arrow until the tape tension at the two points is exactly equal.

9-2-3. Tape Run Adjustment at Correction Guide (A)

Mode:FWD(X1), REV(x1)

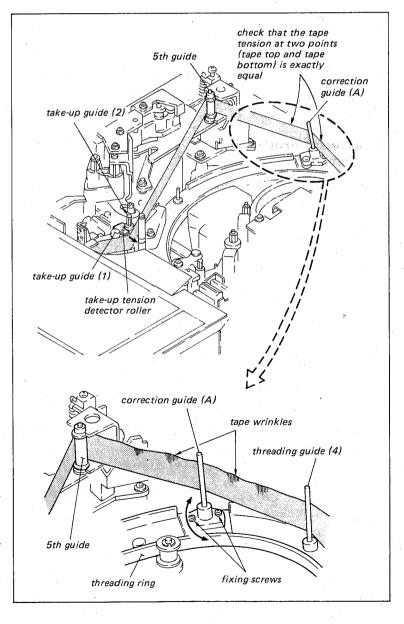
Check procedure:

- (1) Insert a KCA-60 cassette tape (use the middle portion of the tape for this adjustment) and put the machine into the FWD mode(x1).
- (2) Observe the surface of the running tape very carefully in the position as shown in figure. Check that amount of tape tension at the two points is exactly equal i.e., equal at the tape top and tape bottom.
- (3) Put the machine into the REV mode(x1). Check that the tape tension as the same manner in step (2).
- (4) Put the machine into the FWD mode(x1). Press the T-tension detector roller lightly in the direction of the arrow with finger.
 Check that the tape runs

without curl at the top and bottom flanges of 5th guide.

Adjustment procedure:

Loosen the fixing screw of correction guide (A) 1/2 turns and move the guide in the direction of the arrow to meet the required specification in all modes.



9-2-4. Tape Run Adjustment at 6th Guide

Mode:FWD(x1), REV(x1)

Check procedure:

- (1) Insert a KCA-60 cassette tape (use the middle portion of the tape for this adjustment). Put the machine into the FWD mode(x1).
- (2) Check that the tape runs without curl at the top and bottom flanges of the 6th guide, take-up guide (1) and (2).
- (3) Check the tape run same as the above in the REV(x1) mode.
- (4) Put the machine into the FWD (x1)mode. Push the T tension detector roller lightly in the direction of the arrow with finger. Check that the tape running without curl at the top and bottom flanges of take-up guide (1) and (2).

Adjustment procedure:

If there exists tape curl in the procedures (2) and (3).

(1) If there exists tape curl at the 6th guide, loosen the fixing screw and adjust the height.

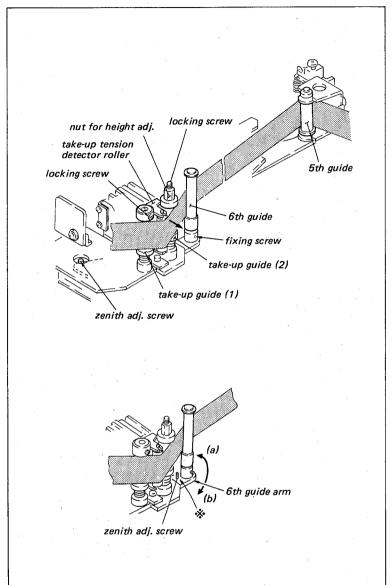
If there exists tape curl at the take-up guide (1) and (2), loosen the locking screw of take-up guide (2). Turn the adjusting nut and adjust the height.

If there exists tape curl in the

procedure (4).

(2) If there exists tape curl at the top and bottom flanges of take-up guides (1) and (2), turn the 6th guide zenith adj. screw in the clockwise direction.

If there exists tape curl at the bottom flange, tune the adj. screw in the counterclockwise direction.



Do not rotate the zenith adj. screw more than one full turn (360 degrees) in either direction of the clockwise or counterclockwise.

(3) If the adjusting is not satisfied in step (2), adjust as follows.
Turn the zenith adj. screw of 6th guide.

9-2-5. Tape Run Adjustment at S Guide (1) and (2)

Tool:

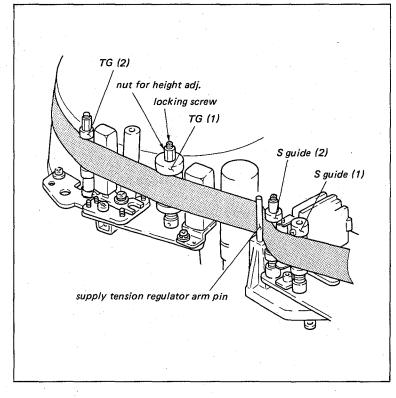
Alignment tape, RR5-2SB-PAL Oscilloscope Extension board

Mode: FWD(x1), REV(x1)

Check procedure:

- (1) Insert a KCA-60 cassette tape (use the middle portion of the tape for this adjustment) and put the machine into the FWD(x1) mode.
- (2) Check that there are not curl at tape guides (1), (2), TG1 and TG2.
- (3) Check that amount of tape tension at the two points is exactly equal i.e., equal at the tape top and tape bottom at the supply tension regulator.

- (1) Connect the oscilloscope to TP29/YD-9 board and externally trigger from TP3/YD-9 board.
- (2) Play back the color-bar portion or the monoscope portion of the alignment tape.



(3) Adjust height of the guides so that the RF envelope fluctuation maintains flatness and the tape run without curl of supply guide (1), (2), TGl and TG2. Adjust height so that amount of tape tension at the supply tension regulator is exactly equal i.e., equal at the tape top and tape bottom. Do not adjust the slantness of supply tension regulator arm pin.

9-2-6. FWD/REV Tape Run Overall Adjustment

Mode:FWD(x1), REV(x1)

Check procedure:

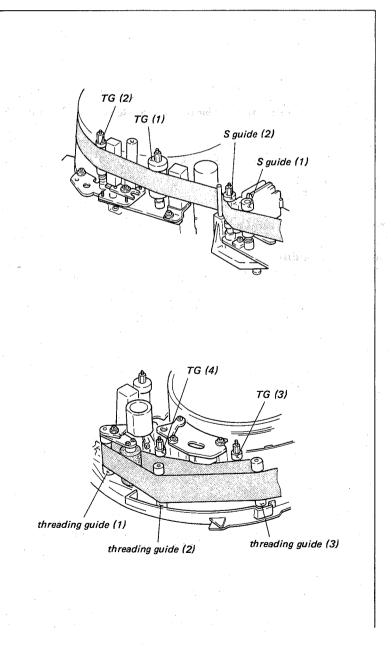
- (1) Insert a KCA-60 cassette tape. Repeat putting the machine into the FWD (x1) and the REV-(x1) modes. Check as follows.
- (2) Check that there is not curl of supply guide (1), (2), TG1 and TG2. Tape curl, if it exists in the FWD(x1) or the REV(x1) modes, check that the tape curl meets the specification.

Observe the surface of the running tape very carefully in the supply tension regulator. Check that amount of tape tension at the tape top and tape bottom is exactly equal amount.

(3) Check that there exists no tape curl of TG3, TG4 and threading guide (2). Tape curl, if it exists in the FWD(x1) or the REV(x1) modes, check that curl meets the specification. Check that there exists no tape curl at

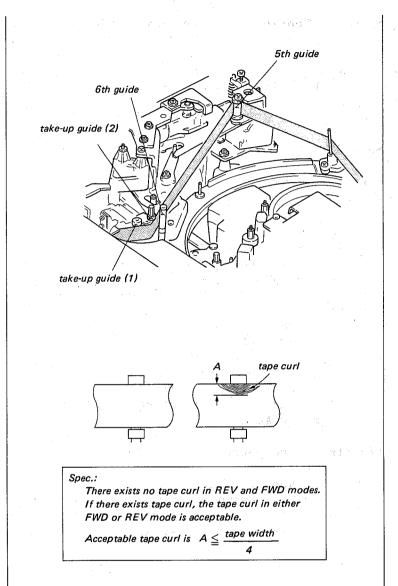
threading guide (1).

(4) Check that there exists no tape curl at 5th guide. Tape curl, if it exists in the FWD(x1) or the REV(x1) mode, check that curl meets the required specification. Check that there exists no tape curl at take-up guide (1), (2) and 6th guide.



Adjustment procedure:

If tape curl does not meet the required specification, perform the sec.9-2 FWD/REV Tape Run Adjustment.



9-2-7. S Tension Regulator Arm Pin Slantness Adjustment

This adjustment is usually not required. Proceed the following steps only when the supply tension regulator arm block is replaced or removed.

Tool:Flatness plate

Mode: STANDBY

Check procedure:

- (1) Set the flatness plate on the supply guide (2) as shown in figure. Press the flatness plate with the S tension regulator pin lightly. Check that the clearance between S tension regulator pin and flatness plate meets the required specification.
- (2) Check that the clearances of the top and bottom between the S tension regulator pin and the supply guide (2) are equal viewing from the direction of the arrow A.

Adjustment procedure:

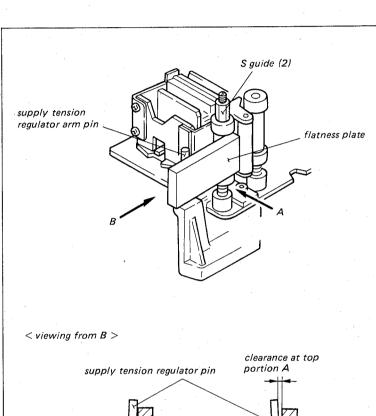
- (1) If the check procedure (1) is out of specification.

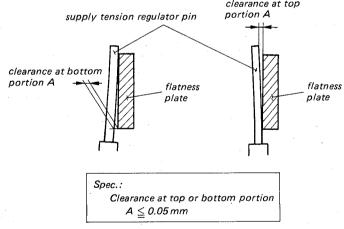
 When the clearance is out of
 - When the clearance is out of spec. at the top portion, loosen the fixing screw about 1/2 turns and turn the adjusting screw A and B of exactly equal amount in clockwise direction. Tighten the fixing screw and check again.

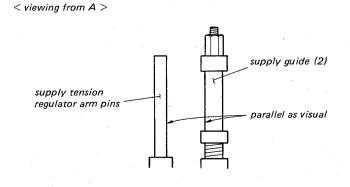
When the clearance is out of spec. at the bottom portion, turn the adjusting screws A and B of exactly equal amount in counterclockwise direction. Tighten the fixing screw and check again.

(2) If the check procedure (2) is out of specification.

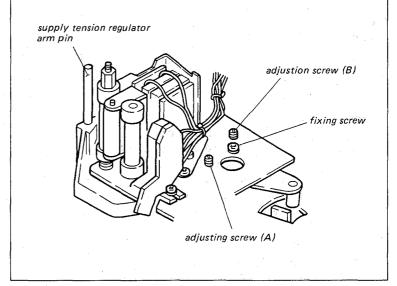
When the clearance is out of spec. at the top portion, loosen the fixing screw about 1/2 turns and turn the adjusting screw A and B of exactly equal amount in clockwise direction. Tighten the fixing screw and check again.







When the clearance is out of spec. at the bottom portion, turn the adjusting screws A and B of exactly equal amount in counterclockwise direction. Tighten the fixing screw and check again.



9-3. VIDEO TRACKING ADJUSTMENT

Tool:

Alignment tape, RR5-2SB-PAL Flatness plate Extension board Oscilloscope

Preparation:

- (1) Connect the oscilloscope to TP29/YD-9 board, and externally trigger from TP3/YD-9 board.
- (2) Turn on the power.
- (3) Playback the color-bar portion of the alignment tape.

Check procedure:

- (1) While observing the waveform on the scope, turn the TRACKING control knob in the both directions noting that the RF waveform maintains a flat envelope while the amplitude increases and decreases.
- (2) Confirm that the RF waveform fluctuation and head-to-tape contact are within the specification when the RF envelope is made as large as possible by turning the TRACKING control knob.

Adjustment procedure:

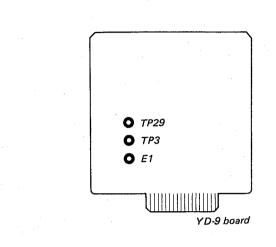
When perform the tape guide height adjustment, loosen the locking screw of tape guides.

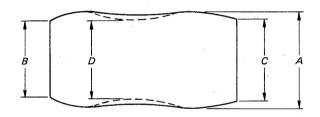
When the tracking at the drum's input side is no good.

- (1) Set the TRACKING control knob so that the RF waveform amplitude is made to 70 to 80 % of the maximum amplitude.
- (2) Adjust height of the tape guides of TG-1, TG-2 and supply tape guide 2. Do not adjust the slantness of the supply tension regulator arm.

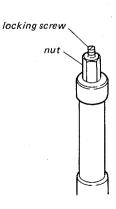
When the tracking at the drum's exit side is no good.

(3) Set the TRACKING control knob so that the RF waveform amplitude is made to 70 to 80 % of the maximum amplitude.

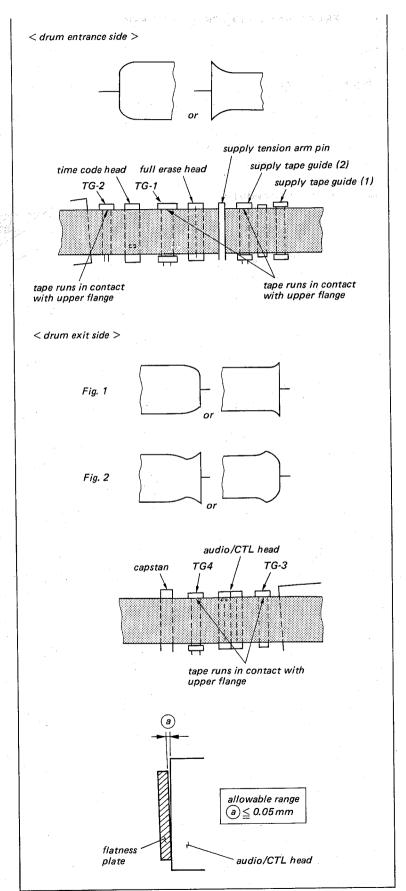




Spec.: < head-to-tape contact > $\frac{B}{A} \ge 0.70 \quad \frac{C}{A} \ge 0.70$ < fluctuation of amplitude > $\frac{D}{A} \ge 0.9$



(4) When the RF waveform is not flat as shown in Fig.1, adjust the height of TG-3 and TG-4 so that the RF waveform is flat. When the RF waveform is no flat as shown in Fig.2, adjust the height of TG-3 and TG-4 so that the RF waveform is flat. If it does not with this adjustment, adjust the zenith of the audio/CTL head within the allowable range. Adjust the height of the TG-3 and TG-4.



9-4. ERASE HEAD ZENITH ADJUSTMENT

Tool:Flatness plate

Check procedure:

Check that the clearnace between the erase head and the flatness plate meets the required specification, when the flatness plate is set on the erase head and TG1.

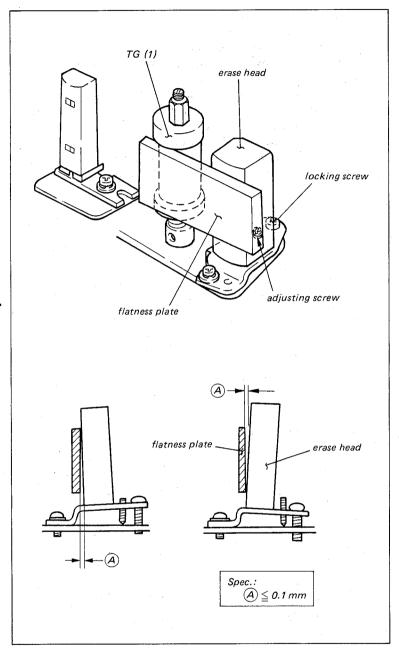
Adjustment procedure:

When the clearance is out of spec. at the top portion of the erase head.

- (1) Turn the adjusting screw in counterclockwise direction.
- (2) Tighten the locking screw and check zenith again.

When the clearance is out of spec. at the bottom portion of the erase head.

- (3) Loosen the locking screw.
- (4) Turn the adjusting screw in clockwise direction.
- (5) Tighten the locking screw and check zenith again.



9-5. TIME CODE HEAD ADJUSTMENT

9-5-1. Time Code Head Tape-to-Head Contact Adjustment

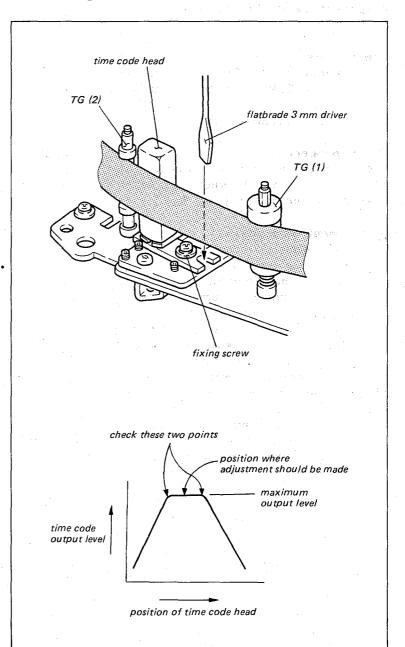
Tool:

Alignment tape, RR5-2SB-PAL VTVM or oscilloscope

Preparation:

- Connect the VTVM or oscilloscope to TIME CODE OUT terminal.
- (2) Playback the color-bar portion of the alignment tape. (time code output level is about -30 dB.)

- (1) Loosen the fixing screw of time code head about 1/4 turns.
- (2) Insert a flatbrade 3mm screw-driver into the hole as shown in figure. Adjust the time code head block where the output is maximum and starting to decrease.
- (3) Set the time code head block on the middle portion of two points and tighten the fixing screw.



9-5-2 Time Code Head Height Adjustment

Tool:

Alignment tape, RR5-2SB-PAL VTVM or Oscilloscope

Preparation:

- Connect the VTVM or oscilloscope to TIME CODE OUT terminal.
- (2) Playback the color-bar portion of the alignment tape.

Check procedure:

Check that the level increase is less than 0.5 dB when pressing down at A and pushing up B.

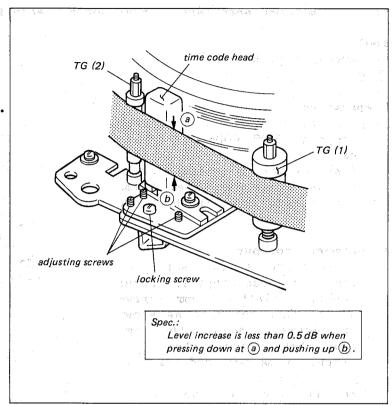
Adjustment procedure:

Level increase is more than 0.5 dB when pressing down at A.

- (1) Loosen the locking screw 1/2 to 1/4 turns and turn 3 adjusting screws of exactly equal amount in clockwise direction.
- (2) Tighten the locking screw and check height again.

Level increase is more than 0.5 dB when pushing up at B.

- (3) Turn 3 adjusting screws of exactly equal amount in counterclockwise direction.
- (4) Tighten the locking screw and check height again.



9-5-3. Time Code Head Zenith Adjustment

Tool:Flatness plate

Check procedure:

Check that the clearnace between the time code head and the flatness plate meets the required specification, when the flatness plate is set on the time code head and TG-2.

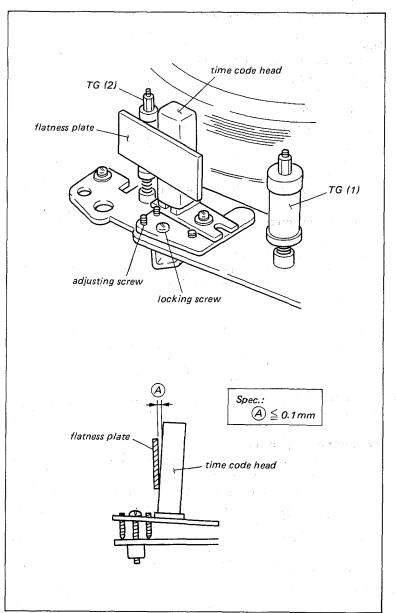
Adjustment procedure:

When the clearance is out of spec. at the top portion of the time code head.

- (1) Turn the adjusting screw in counterclockwise direction.
- (2) Tighten the locking screw and check zenith again.

When the clearance is out of spec. at the bottom portion of the time code head.

- (3) Loosen the locking screw 1/4 to 1/2 turns and turn the adjusting acrew in clockwise direction.
- (4) Tighten the locking screw and check zenith again.



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9-6. AUDIO HEAD ADJUSTMENT

9-6-1. Audio Head Height Adjustment

Tool:

Alignment tape, RR5-2SB-PAL VTVM or Oscilloscope

Preparation:

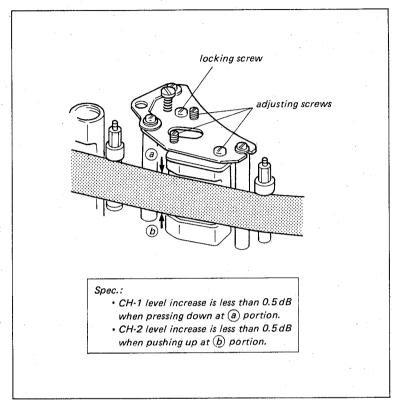
- (1) Connect the VTVM or oscilloscope to AUDIO OUT CH-1 and CH-2 terminals.
- (2) Playback the audio 1 kHz portion of the alignment tape.

Check procedure:

- Check that the CH-l output level increase is less than 0.5 dB when pressing down at A. If not, perform the steps (1) and (2) of the adjustment procedure.
- (2) Check that the CH-2 output level increase is less than 0.5 dB when pushing up at B. If not, perform the steps (3) and (4) of the adjustment procedure.

Adjustment procedure:

- (1) Loosen the locking screw and turn the zenith height adjusting screws (R) and (F) counterclockwise at the same amount and turn the azimuth adjusting screw clockwise at the same amount.
- (2) Tighten the locking screw and check height again.
- (3) Loosen the locking screw and turn the zenith height adjusting screws (R) and (F) clockwise at the same amount and turn the azimuth adjusting screw counterclockwise at the same amount.
- (4) Tighten the locking screw and check height again.



9-6-2. Audio Head Zenith Adjustment

Tool:Flatness plate

Check procedure:

Check that the clearance between the audio head and the flatness plate meets the required specification, when the flatness plate is set on the audio head and TG-3. Do not set the flatness plate on the upper portion of the TG-3.

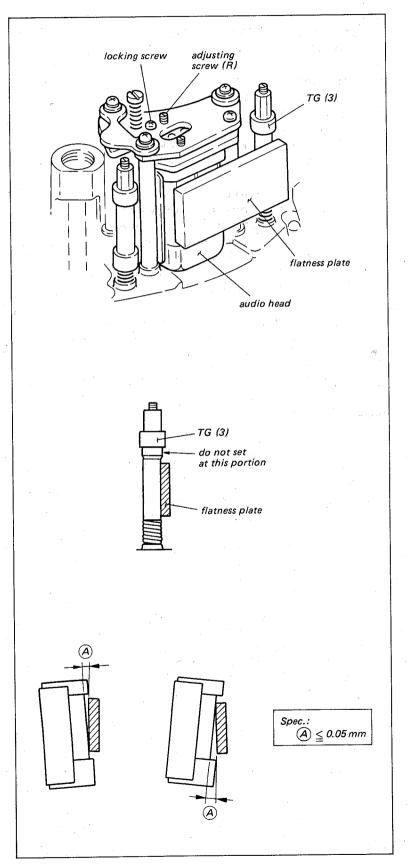
Adjustment procedure:

.When the clearance is out of spec. at the top portion of the audio head.

- (1) Turn the adjusting screw (R) in counterclockwise direction.
- (2) Tighten the locking screw and check zenith again.

.When the clearance is out of spec. at the bottom portion of the audio head.

- (3) Loosen the locking screw 1/4 to 1/2 turns and turn the adjusting screw (R) in clockwise direction.
- (4) Tighten the locking screw and check zenith again.



9-6-3. Audio Head Azimuth Adjustment

Tool:

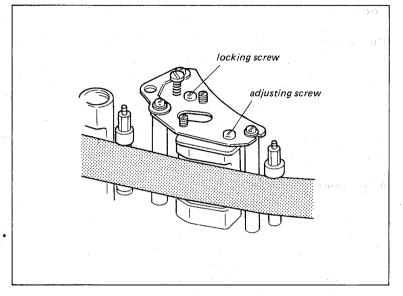
Alignment tape, RR5-2SB-PAL VTVM or oscilloscope

Preparation:

- (1) Connect the VTVM or oscilloscope to AUDIO OUT CH-1 or CH-2 terminal.
- (2) Playback the audio 10 kHz portion of the alignment tape.

Adjustment procedure:

- (1) Loosen the locking screw and adjust the maxmum output level by turning the adjusting screw.
- (2) Tighten the locking screw.



9-6-4. Audio Head Phase Adjustment

Tool:

Alignment tape, RR5-2SB-PAL Oscilloscope

Preparation:

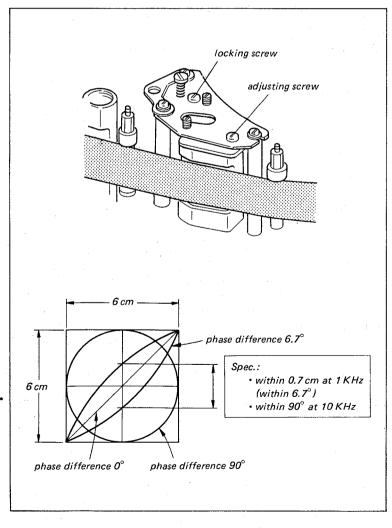
- (1) Connect the horizontal and vertical terminals of the oscilloscope to AUDIO OUT CH-1 and CH-2 terminals.
- (2) Playback the audio 1 kHz portion of the alignment tape.
- (3) Adjust the scope for horizontal and vertical amplitudes of 6 cm of a lissajous waveshape.

Check procedure:

Check that the vertical amplitude at the center in the horizontal direction is within the specification at 1 kHz and 10 kHz.

Adjustment procedure:

- (1) Loosen the locking screw 1/4 to 1/2 turns and adjust the phase by turning the adjusting screw.
- (2) Tighten the locking screw and confirm phase again.



9-7. AUDIO/CTL HEAD POSITION ADJUSTMENT

Tool:

Alignment tape, RR5-2SB-PAL Oscilloscope

Preparation:

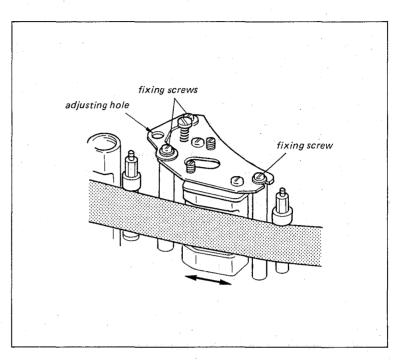
- (1) Connect the oscilloscope to TP29/YD-9 board, and externally trigger from TP3/YD-9 board.
- (2) Playback the color-bar portion of the alignment tape.

Check procedure:

Check that the RF waveform has the maximum amplitude when the TRACK-ING control knob is set in the detent position.

Adjustment procedure:

Adjust the position of the audio/CTL head in the direction of the arrow.



9-8. VIDEO HEAD DIHEDRAL ADJUSTMENT

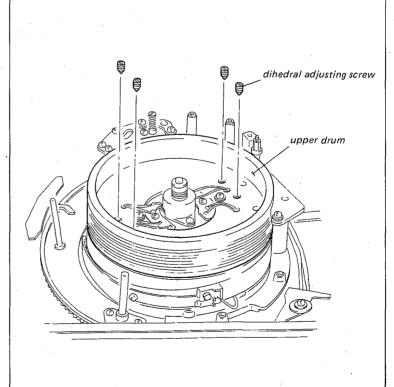
Video head dihedral adj. and video head azimuth adj. are closely related. If any one of these adjustments is attempted, perform another adjustment at the same time.

Tool:

Dihedral adjusting screw Alignment tape, RR5-2SB-PAL Video monitor

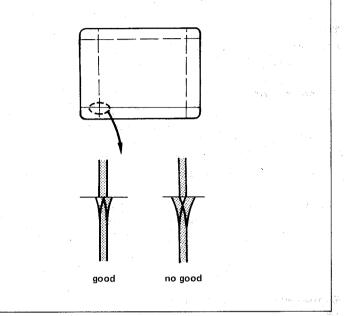
Check procedure:

- (1) Playback the monoscope portion of the alignment tape.
- (2) Check that one vertical line beneath the switching point on monitor the screen looks divided into two separated lines which should normally be (If one vertical one line. line looks as two separate lines, dihedral adjustment is necessary. When one line is not divided into two lines, adjustment is not necessary.)



Adjustment procedure:

- (1) Screw lightly four dihedral adjusting screws into the upper drum.
- (2) Turn either of the two screws adjacent to the video head with white leads until some resistance is felt.
- (3) If this screw is turned further, the video head is moved and the dihedral is adjusted. Therefore, turn this screw an additional quater turn.
- (4) Check for dihedral distortion. If the distortion has gotton worse, turn this screw back one turn and tighten the other screw a quarter turn. Check again for dihedral distortion and continue in this way until dihedral error is eliminated.
- (5) When the adjustment is completed, remove the four dihedral adjusting screws. After removal, playback the alignment tape and check dihedral again as error sometimes reappears after screws are removed.



9-9. VIDEO HEAD AZIMUTH ADJUSTMENT

Tool:

Alignment tape, RR5-2SB-PAL Oscilloscope

Preparation:

- (1) Connect the oscilloscope to TP12/RP-5-1 board, and externally trigger from TP3/ YD-9 board.
- (2) Turn on the power.
- (3) Playback the RF 8MHz portion of the alignment tape, and adjust the TRACKING control for the maximum RF output signal amplitude.

Check Procedure:

- (1) Check that the RF output signal of amplitude is within the specification.

 If not, put the machine into the STANDBY mode first, and adjust as follows.
 - (i) If the RF output signal is out of spec. as shown in Fig.1,

Locate the video head tip with white lead to the alignment tape side.

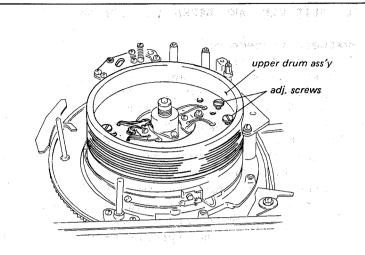
Turn the azimuth adjusting screw that locate the right side of the video head with white lead.

(ii) If the RF output signal is out of spec. as shown in Fig.2,

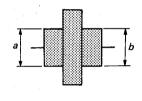
Locate the video head tip with white lead to the alignment tape side.

Turn the azimuth adj. screw that locate the left side of the video head with white lead.

- (2) connect the oscilloscope to TP11/RP-5-1 board.
- (3) check and/or adjust to the other video head tip (with red lead) in the same manner as described in step (1).
- (4) After this adjustment, perform the sec.9-8 Video Head Dihedral Adjustment.



Spec.



a = L

Fig. 1.

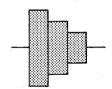


Fig. 2.



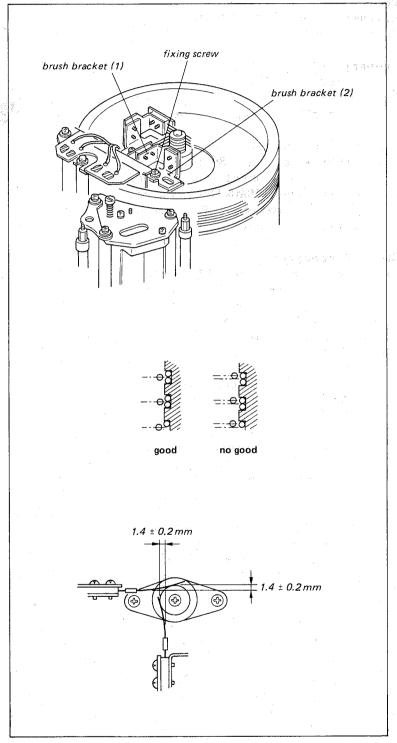
9-10. SLIP-RING AND BRUSH POSITION ADJUSTMENT

Adjustment procedure:

(1) Loosen the fixing screw of the brush bracket (2) and disengage the brush from the slipring. Tighten the fixing screw.

(2) Loosen the fixing screw of the brush bracket (1). Adjust the height of the brush bracket (1) to meet the specification.

(3) Loosen the fixing screw of the brush bracket (2) again. Adjust the position of the brush to meet the specification.



SECTION 10 POWER SUPPLY/SYSTEM CONTROL ALIGNMENT

[Equipment Required]

- DC Voltmeter
- · Oscilloscope.
- · (BVE-500ACE or BVR-510ACE)

Note: Not always to readjust power line for slite out-ofspecification so far as servo and video system are normal because it affects servo and video chracteristic.

10-1. SWITCHING REGULATOR ADJUSTMENT

10-1-1. Excess Voltage Detector Circuit adjustment

- (1) Turn off the Power Switch and turn the RV2 on PW-79 board fully counterclockwise. (component side view)
- (2) Turn on the Power Switch and adjust the voltage at TP305 on PD board to 17.0 ± 0.1V by RV1 on PW-79 board.

Caution: Care should be taken for adjustment of RV2 as it may damage many compornents if the voltage at TP305/PD board exceeds 17.1V.

(3) Turn RV2 on PW-79 board gradually clockwise (component side view) until the voltage at TP305 on PD board will be OV.

Note: Perform 10-1-2 output voltage adjustment successively.

10-1-2. OUTPUT Voltage Adjustment

- (1) Turn off the Power Switch and turn the RV1 on PW-79 board fully counterclockwise. (component side view)
- (2) Wait two minutes or more, then turn on the Power Switch and set to the STOP mode. (with tape threaded)
- (3) Adjust the voltage at TP305 on PD board to 15.5 \pm 0.1V with RV1 on PW-79 board.

Note: Confirm the specification of 10-2 REG5V adjustment and 10-3 REG12V adjustment when this output voltage adjustment is performed.

10-2. REG5V ADJUSTMENT

«machine conditions for adjustment»

STOP mode

«spec.»

- TP304/PD-14
- 5.33 \pm 0.01 \vee

10-3. REG12V ADJUSTMENT

«machine conditions for adjustment»

· STOP mode

«spec.»

- TP301/PD-14
- · 12.0 ± 0.1V
- **Ø** RV1/PD-14

10-4. TAPE BEGINNING/END DETECTOR ADJUSTMENT

«machine conditions for adjustment»

- · STOP mode
- · without cassette

«spec.»

- TP1/RE-3
- \cdot 6.0 \pm 0.2V
- **②** RV1/RE-3

10-5. SEARCH imes 10 MODE DETECTOR ADJUSTMENT

«machine conditions for adjustment»

FWD SEARCH ×5 mode (Just before clik position)

«spec.»

- · IC41-10/SY-36
- A
- A = $18.5 \pm 0.3 \mu S$

10-6. PINCH ROLLER PRESSURE TIMING ADJUSTMENT (1)

NOTE; This adjustment is only performed in remote control with 36P remote connector.

«machine conditions for adjustment»

- REMOTE/LOCAL SW; REMOTE
- REMOTE 1/2 SW; 2 (36P)
- Change the mode, REMOTE SEARCH STILL mode to REMOTE SEARCH FWD mode. (BVE-500A or BVR-510A is used in this adjustment.)

«spec.»

• IC50-6/SY-36



• A = 180 \pm 3mS

⊘ RV1/SY-36

10-7. PINCH ROLLER PRESSING TIMING ADJUSTMENT (2)

«machine conditions for adjustment»

· Change the mode, STOP mode to PLAY mode.

«spec.»

· IC50-10/SY-36



• A = 180 \pm 3mS

⊘ RV3/SY-36

[Equipment Required]

- Oscilloscope
- · Audio Oscillator
- Frequency Counter
- Alignment Tape

RR5-2SB PAL (Parts No.8-960-020-62)

Time (min.)	Video	Audio	Time code
5	Color bars	3kHz,0dB	1 kHz
5	R-F sweep	- .	
5	Monoscope) -	· -
2.5	Modulated 20T pulse	1 kHz,OdB	
2.5	R-F 8MHz	10kHz,-10dB	_

[Definition of Mode]

Mode	Frequency at TP11 on SV board. (Hz)
PLAY	approx. 450
SEARCH × 1/30	approx. 15
SEARCH × 1/10	approx, 40
SEARCH × 1/5	approx. 83
SEARCH × 1/2	approx. 220
SEARCH × 1	approx. 444
SEARCH × 2	approx. 890
SEARCH × 5	approx. 2230
SEARCH × 10	approx. 450 (Click position)

11-1. CAPSTAN FG BIAS ADJUSTMENT

«machine conditions for adjustment»

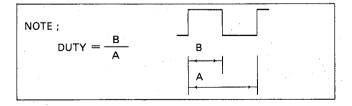
STOP mode

«spec.»

- TP11/SV board
- DUTY = $50 \pm 2\%$

«spec.»

- TP12/SV board
- DUTY = 50 \pm 2%



11-2. DRUM FREE SPEED ADJUSTMENT

«machine conditions for adjustment»

· STOP mode

«spec.»

- TP5/SV board
- DUTY = 50 \pm 2%
- **②** RV4/SV board

NOTE; After completing this adjustment, perform the section 11-12. Drum Lock Phase Adjustment (RV4 fine adj.).

11-3. CAPSTAN FREE SPEED ADJUSTMENT

«machine conditions for adjustment»

• STOP mode

«spec.»

- TP7/SV board
- DUTY = $60 \pm 2\%$
- **②RV11/SV** board

11-4. SEARCH imes 5 ADJUSTMENT

«machine conditions for adjustment»

• FWD SEARCH \times 5 mode

«spec.»

TP12/SV board



- A = 0.44 \pm 0.01mS
- A ...

NOTE ; After completing this adjustment, perform the section 11-6. SEARCH \times 1 adjustment (RV3 fine adj.).

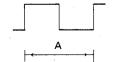
11-5. SEARCH imes 1/30 ADJUSTMENT

«machine conditions for adjustment»

• FWD SEARCH $\times\,1/30$ mode

«spec.»

TP12/SV board



- A = 67 \pm 10mS
- ØRV15/SV board

SERVO

11-6. SEARCH imes 1 ADJUSTMENT (RV3 fine adj.)

«machine conditions for adjustment»

- FWD SEARCH × 1 mode
- · MODE SELECT SW; TBC

«spec.»

- TP12/SV board
- 444 ± 2Hz

⊘ RV3/SV board

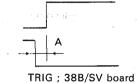
11-7. TRACKING CONTROL CALIBRATION

«machine conditions for adjustment»

- · Playback mode; Alignment tape (Color bar segment)
- · TRACKING : FIXED

«spec.» ⊅∃™

• 38B/SV board



- TP501/CF-9
- $A = 0 \pm 0.05 mS$

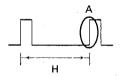
11-8. DRUM AFC (H period) ADJUSTMENT

«machine conditions for adjustment»

· Change the mode, PLAY mode to STILL (SEARCH) mode.

«spec.»

TP2/SV board



- · Oscilloscope DELAY mode at A portion.
- H period (in PLAY mode) \pm 0.05 μ S = H period (in STILL mode)
- RV13/SV board

11-9. AFC BIAS ADJUSTMENT

«machine conditions for adjustment»

· Change the mode, STILL (SEACH) mode to PLAY mode.

«spec.»

- TP9/SV board
- · The dc level at STILL mode = The dc level at PLAY mode
- **⊘**RV12/SV board

11-10. CAPSTAN SPEED DETECTOR ADJUSTMENT

«machine conditions for adjustment»

FWD SEARCH × 1/30 mode

((spec.)

· IC28-6/SV board



- $A = 0.67 \pm 0.01 mS$

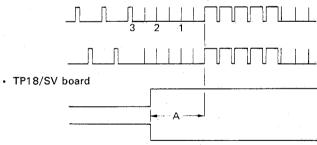
11-11. SWITCHING POSITION ADJUSTMENT

«machine conditions for adjustment»

- · Playback mode; Alignment tape (Color bar segment)
- · Short between TP3 and GND/SV board with jumper.
- · Short between TP2 and GND/SV board with jumper.
- · TRACKING; FIXED

«spec. at the adjustment»

5A/SV board



- $A = 2.25 \pm 0.15H$
- **⊘** RV6/SV board (rising)
- RV8/SV board (falling)

«spec. at the checking»

• A = 2.25 H + 0.75 H - 1.75

NOTE; Once the switching position adjustment is completed to 2.25H \pm 0.15H, if the data measured using another alignment tape is within 0.5H - 3.0H. This is acceptable because of tape torerance.

11-12, DRUM LOCK PHASE ADJUSTMENT (RV4 fine adj.)

«machine conditions for adjustment»

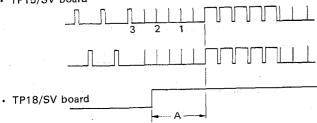
- REC mode
- · VIDEO (N; Color bar
- · Short between TP3 and GND/SV board with jumper.
- · Short between TP2 and GND/SV board with jumper.

S/N. up to 12185 . . . PAL \S/N. up to 10185 . . . SECAM /

· Short between IC100-6 pin (or IC5-6 pin) and GND/SV board /S/N. 12186 and higher . . . PAL with jumper. S/N. 10186 and higher . . . SECAM

«spec.»

· TP15/SV board



- $A = 2.25 \pm 0.15H$
- RV4/SV board

11-13. PICTURE SPLITTING COMPENSATOR **ADJUSTMENT**

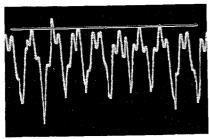
NOTE; This adjustment is not necessary in normal service operation except when the variable resistor, upper drum assy and/or drum assy is replaced.

«machine conditions for adjustment»

· Playback mode ; Alignment tape (monoscope segment)

«spec.»

• TP19/SV board

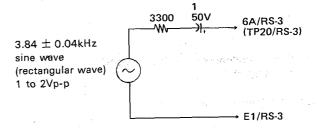


- · Flatten the peak level as possible as maximum level.
- RV9/SV board RV10/SV board

11-14. TAKE UP REEL MOTOR SPEED **ADJUSTMENT**

«machine condetions for adjustment»

- · Cassette up mode
- Confirm that dc level at TP24 on RS-3 board is 12 \pm 0.2V.
- · Connect the sine wave (or rectangular wave) at 6A on RS-3



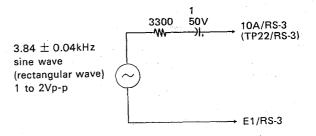
«spec.»

- TP4/RS-3
- · 5 ± 0.05V
- **Ø** RV1/RS-3

11-15. SUPPLY REEL MOTOR SPEED **ADJUSTMENT**

«machine conditions for adjustment»

- · Cassette up mode
- \cdot Confirm that dc level at TP24 on RS-3 board is 12 \pm 0.2V.
- Connect the sine wave (or rectangular wave) at 10A on RS-3 board.



«spec.»

- TP10/RS-3
- $5 \pm 0.05 V$
- **Ø** RV2/RS-3

11-16. CAPSTAN SYNCHRONIZE ADJUSTMENT

«machine conditions for adjustment»

- · Playback mode; Alignment tape (Color bar segment)
- Connect between 3A and CN1-39/SV board with $10k\Omega$ resistor.

«spec.»

- · TP12/SV board
- 470 ± 1Hz

11-17. REF 135degrees BURST PULSE ADJUSTMENT

«machine conditions for adjustment»

- · EE mode
- · VIDEO IN; color bar

«spec.»

• TP702/CF-9



- \cdot A = 10 \pm 5 μ S
- **②** RV502/CF-9

11-18. PB 135degrees BURST PULSE ADJUSTMENT

«machine conditions for adjustment»

- Playback mode; Alignment tape (Color bar segment)
- · VIDEO IN ; color bar

«spec.»

• TP701/CF-9



- $A = 15 + 5\mu S 10\mu S$
- @RV501/CF-9

NOTE:

- RV5/SV board (DT Switching Position Adjustment)
- **⊘** RV7/SV board (DT Switching Position Adjustment)

These adjustments are not necessary to perform in BVU-800P.

NOTE;

- RV2/RE-3 (Take-up Reel Motor Current Sense Adjustment)
- **⊘** RV3/RE-3 (Supply Reel Motor Current Sense Adjustment)
- **②** RV501/RS-4 (T Tension Detector O gram Point Adjustment)
- RV502/RS-4 (T Tension Detector 100 gram Point Adjustment)
- RV504/RS-4 (S Tension Detector 100 gram Point Adjustment)

Refer to the Mechanical Alignment.

11-19. ASSEMBLE COMPENSATOR ADJUSTMENT

NOTE; 1. Perform adjustments of section 11-2 (Drum Free Speed), section 11-11 (Switching Position) and 11-12 (Drum Lock Phase) before this adjustment.

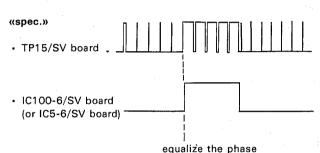
2. Aplicable serial No.: 12186 and later. (PAL)

10186 and later. (SECAM)

(P.C. board part No. 1-607-914-13 and later.)

«machine conditions for adjustment»

- REC mode
- · VIDEO IN; color bar



RV100/SV board

SECTION 12 AUDIO SYSTEM ALIGNMENT

[Equipment Required]

- Audio Oscillator
- Audio Attenuator
- VTVM
- Frequency Counter
- Oscilloscope
- · Blank Tape
- Alignment Tape

RR5-2SB PAL (Parts No.8-960-020-62)

Time (min.)	Video	Audio	Time code
5 5	Color bars R-F sweep	3kHz,0dB	1 kHz
5	Monoscope		_
2.5 2.5	Modulated 20T pulse R-F 8MHz	1kHz,0dB 10kHz,-10dB	- 1

[Switch/VR Setting]

* Front Panel	
AUDIO MONITOR	CH-1
TRACKING	FIXED
VIDEO	AUTO
AUDIO LIMITER	OFF
MIXING SELECT	OFF
MODE SELECT	NORMAL
INPUT SELECT	LINE
SKEW	CLICK
REMOTE 1/2	2 (36P)
REMOTE/LOCAL	LOCAL
PB/PB • EE	PB • EE
* Rear Panel	- 4
AUDIO IN LEVEL	LOW

12-1. AUDIO LEVEL CONTROL SETTING

«machine conditions for adjustment»

- EE mode
- · AUDIO IN ; 1kHz, -60dB

«spec.»

- · 21A/AU-13 (CH-1)
- \cdot 0 \pm 0.5dB

⊘AUDIO REC LEVEL (CH-1)

«spec.»

- 34A/AU-13 (CH-2)
- \cdot 0 \pm 0.5dB
- **⊘** AUDIO REC LEVEL (CH-2)

NOTE; The AUDIO LEVEL CONTROL should not be touched until rest of section 12 AUDIO SYSTEM ALIGNMENT are completed.

12-2. OUTPUT LEVEL ADJUSTMENT

«machine conditions for adjustment»

- EE mode
- · AUDIO IN; 1kHz, -60dB

«spec.»

- CH-1 AUDIO OUT (600Ω terminated)
- ・4 ± 0.5dB

@RV1/AO-3

«spec.)

- CH-2 AUDIO OUT (600Ω terminated)
- 4 ± 0.5dB

Ø RV2/AO-3

12-3. MONITOR OUT LEVEL ADJUSTMENT

«machine conditions for adjustment»

- · EE mode
- · AUDIO IN; 1kHz, -60dB
- · AUDIO MONITOR SW; CH-1

«spec.»

- AUDIO MONITOR OUT (600Ω terminated)
- 4 ± 0.5dB

Ø RV3/AO-3

Reference

(AUDIO MONITOR SW ; at MIX 7 \pm 2dB)

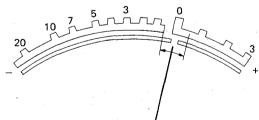
12-4. LEVEL METER CALIBRATION

«machine conditions for adjustment»

- EE mode
- · AUDIO IN; 1kHz, -60dB

«spec.»

· VU meter



- \cdot 0 \pm 0.5 scale

«spec.»

- \cdot 0 \pm 0.5 scale
- **⊘** RV105/AU-13 (CH-2)

12-5. LIMITER LEVEL ADJUSTMENT

«machine conditions for adjustment»

- · EE mode
- · AUDIO IN; 1kHz, -30dB
- · LIMITER SW; ON

«spec.»

- CH-1 AUDIO OUT (600Ω terminated)
- 7 ± 0.5dB

«spec.»

- CH-2 AUDIO OUT (600Ω terminated)
- 7 ± 0.5dB

12-6. PLAYBACK FREQUENCY RESPONSE /LEVEL ADJUSTMENT

«machine conditions for adjustment»

• Playback mode; Alignment tape (1kHz/10kHz segment)

«spec.»

- CH-1 AUDIO OUT (600Ω terminated)
- · 10kHz PB Level
 - = $(1kHz PB Level 10dB) \pm 1.5dB$
- ØRV1/AU-13 (CH-1)

«spec.»

- CH-2 AUDIO OUT (600 Ω terminated)
- · 10kHz PB Level
 - = $(1kHz PB Level 10dB) \pm 1.5dB$

12-7. PLAYBACK OUTPUT LEVEL ADJUSTMENT

«machine conditions for adjustment»

- · PLAYback mode; Alignment tape (1kHz segment)
- Adjust the AUDIO PB LEVEL at same degrees of AUDIO REC LEVEL.

«spec.»

- CH-1 AUDIO OUT (600Ω terminated)
- + 4 \pm 0.5dB

«spec.»

- CH-2 AUDIO OUT (600Ω terminated)
- 4 ± 0.5dB

12-8. BIAS OSCILLATOR FREQUENCY ADJUSTMENT

«machine conditions for adjustment»

• REC mode

«spec.»

- TP501/AU-25
- 70 ± 2kHz
- **⊘**LV501/AU-25

12-9. AUDIO ERASE CURRENT ADJUSTMENT (1)

«machine conditions for adjustment»

REC mode

«spec.»

- TP511/AU-25
- Maximum level
- **Ø**LV506/AU-25

12-10. AUDIO ERASE CURRENT ADJUSTMENT (2)

«machine conditions for adjustment»

• CH-1 INSERT mode

«spec.»

- TP511/AU-25
- Maximum level
- **⊘**LV505/AU-25

12-11. AUDIO ERASE CURRENT ADJUSTMENT (3)

«machine conditions for adjustment»

· CH-2 INSERT mode

«spec.»

- TP511/AU-25
- Maximum level
- **⊘**LV504/AU-25

12-12. RECORD BIAS CURRENT ADJUSTMENT (1)

«machine conditions for adjustment»

- REC mode
- Turn RV501/AU-25 fully counterclockwise. (CH-1) (adjust from soldering side)
- Turn RV502/AU-25 fully counterclockwise. (CH-2) (adjust from soldering side)

«spec.»

- TP502/AU-25 (CH-1)
- Maximum level
- **⊘**LV502/AU-25 (CH-1)

«spec.»

- TP503/AU-25 (CH-2)
- Maximum level
- **OLV503/AU-25 (CH-2)**

NOTE; After completing this adjustment, perform the section 12-16. Record Bias Current Adjustment (2).

12-13. BIAS TRAP ADJUSTMENT (1)

«machine conditions for adjustment»

- · REC mode
- AUDIO IN; no signal

«spec.»

- TP2/AU-13 (CH-1)
- Minimum level
- **Ø**LV2/AU-13 (CH-1)

- TP102/AU-13 (CH-2)
- · Mimimum level
- **⊘**LV102/AU-13 (CH-2)

12-14. BIAS TRAP ADJUSTMENT (2)

«machine conditions for adjustment»

· CH-1 INSERT mode

«spec.»

- TP101/AU-13
- Minimum level
- OLV101/AU-13

12-15. BIAS TRAP ADJUSTMENT (3)

«machine conditions for adjustment»

· CH-2 INSERT mode

«spec.»

- TP1/AU-13
- Minimum level
- **⊘**LV1/AU-13

12-16. RECORD BIAS CURRENT ADJUSTMENT (2)

«machine conditions for adjustment»

REC mode

«spec.»

- TP1/AU-13 (CH-1)
- 12mVrms

«spec.»

- TP101/AU-13 (CH-2)
- 12mVrms

12-17. RECORD CURRENT LEVEL ADJUSTMENT

«machine conditions for adjustment»

- REC mode
- AUDIO IN ; 1kHz, -60dB Turn RV7/AU-13 fully counterclockwise. (CH-1) (adjust from soldering side)
- Turn RV107/AU-13 fully counterclockwise. (CH-2) (adjust from soldering side) /S/N. up to 12335 (PAL) S/N. up to 10185 (SECAM)

«spec.»

- TP3/AU-13 (CH-1)
- -1 ± 1.0dB

«spec.»

- TP103/AU-13 (CH-2)
- −1 ± 1.0dB
- ◆ RV104/AU-13 (CH-2)

NOTE; After completing this adjustment, perform the section 12-19. Record Current Frequency Response Adjustment (2).

12-18. RECORD CURRENT FREQUENCY **RESPONSE ADJUSTMENT (1)**

«machine conditions for adjustment»

- **REC** mode
- AUDIO IN; 18kHz, -90dB
 Turn RV7/AU-13 fully counterclockwise. (CH-1)
- (adjust from soldering side)
- Turn RV107/AU-13 fully counterclockwise. (CH-2) (adjust from soldering side) /S/N. up to 12335 (PAL)

S/N. up to 10185 (SECAM)

«spec.»

- TP3/AU-13 (CH-1)
- Maximum level
- LV3/AU-13 (CH-1)

«spec.»

- TP103/AU-13 (CH-2)
- Maximum level
- **⊘**LV103/AU-13 (CH-2)

NOTE; After completing this adjustment, perform the section 12-19. Record Current Frequency Response Adjustment (2).

12-19. RECORD CURRENT FREQUENCY **RESPONSE ADJUSTMENT (2)**

«machine conditions for adjustment»

- · REC mode
- · AUDIO IN; 10kHz, -60dB

«spec.»

- TP3/AU-13 (CH-1)
- Maximum level
- RV7/AU-13 (CH-1)

«spec.»

- TP103/AU-13 (CH-2)
- Maximum level

12-20. CROSSTALK CANCEL ADJUSTMENT (1)

«machine conditions for adjustment»

- · CH-1 INSERT mode
- · Use the tape that is not recorded of the AUDIO signal.

- CH-2 AUDIO OUT (600Ω terminated)
- Minimum level
- **Ø** RV6/AU-13

12-21. CROSSTALK CANCEL ADJUSTMENT (2)

«machine conditions for adjustment»

- · CH-2 INSERT mode
- · Use the tape that is not recorded of the AUDIO signal.

- CH-1 AUDIO OUT (600Ω terminated)
- · Minimum level
- @RV106/AU-13

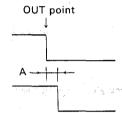
12-22. CH-1 INSERT OFF DELAY TIME **ADJUSTMENT**

«machine conditions for adjustment»

Change the mode, CH-1 INSERT mode to ENTRY OUT mode.

«spec.»

TP201/AU-13



• TP202/AU-13

TRIG; SINGLE TP201/AU-13 (-)

NOTE; Applicable parts number 1-604-337-11 to -15.

- \cdot A = 120 \pm 10mS

Reference

When A < 120mS; Turn the RV202 clockwise. (adjust from soldering side)

When A > 120 mS; Turn the RV202 counterclockwise. (adjust from soldering side)

NOTE; Applicable parts number 1-604-337-16 and later.

- $A = 80 \pm 10 mS$

Reference

When A < 80mS; Turn the RV202 clockwise.

(adjust from soldering side)

When A > 80mS; Turn the RV202 counterclockwise.

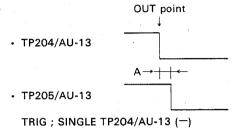
(adjust from soldering side)

12-23. CH-2 INSERT OFF DELAY TIME ADJUSTMENT

«machine conditions for adjustment»

• Change the mode, CH-2 INSERT mode to ENTRY OUT mode.

«spec.»



NOTE; Applicable parts number 1-604-337-11 to -15.

• A = 120 \pm 10mS

Ø RV204/AU-13

Reference

When A < 120mS; Turn the RV204 clockwise. (adjust from soldering side)

When A > 120mS; Turn the RV204 counterclockwise.

(adjust from soldering side)

NOTE; Applicable parts number 1-604-337-16 and later.

 \cdot A = 80 \pm 10mS

⊘RV204/AU-13

Reference

When A \leq 80mS; Turn the RV204 clockwise.

(adjust from soldering side)

When $A > 80 \mathrm{mS}$; Turn the RV204 counterclockwise.

(adjust from soldering side)

12-24. CH-1 BIAS ON DELAY TIME ADJUSTMENT

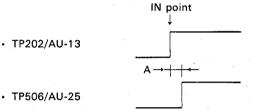
NOTE; Applicable parts number 1-604-337-11 to -15.

NOTE; This adjustment is not necessary for parts number 1-604-337-16 and later.

«machine conditions for adjustment»

· Change the mode, STOP mode to CH-1 INSERT mode.

«spec.»



TRIG; SINGLE TP202/AU-13 (+)

 \cdot A = 100 \pm 10mS

⊘ RV203/AU-13

Reference

When A \leq 100mS; Turn the RV203 clockwise.

(adjust from soldering side)

When A > 100mS; Turn the RV203 counterclockwise.

(adjust from soldering side)

12-25. CH-2 BIAS ON DELAY TIME ADJUSTMENT

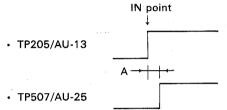
NOTE; Applicable parts number 1-604-337-11 to -15.

NOTE; This adjustment is not necessary for parts number 1-604-337-16 and later.

«machine conditions for adjustment»

· Change the mode, STOP mode to CH-2 INSERT mode.

«spec.»



TRIG; SINGLE TP205/AU-13 (+)

• A = 100 \pm 10mS

Ø RV205/AU-13

Reference

When A \leq 100mS ; Turn the RV205 clockwise.

(adjust from soldering side)

When A > 100mS; Turn the RV205 counterclockwise.

(adjust from soldering side)

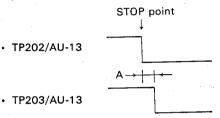
12-26. CH-1 REC OFF DELAY TIME ADJUSTMENT

NOTE; Applicable parts number 1-604-337-16 and later.

«machine conditions for adjustment»

· Change the mode, CH-1 REC mode to STOP mode.

«spec.»



TRIG; SINGLE TP202/AU-13 (--)

•
$$A = 50 + 5mS - 0mS$$

Reference

When A \leq 50mS; Turn the RV208 clockwise.

(adjust from soldering side)

When A > 50mS ; Turn the RV208 counterclockwise.

(adjust from soldering side)

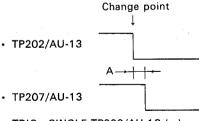
12-27. CH-1 REC/EE OFF DELAY TIME ADJUSTMENT

NOTE; Applicable parts number 1-604-337-16 and later.

«machine conditions for adjustment»

- STOP mode
- PB/PB EE SW; Change the switch PB EE to PB position.

«spec.»



TRIG; SINGLE TP202/AU-13 (-)

⊘RV206/AU-13

Reference

When A \leq 60mS; Turn the RV206 clockwise. (adjust from soldering side)

When A > 60mS; Turn the RV206 counterclockwise. (adjust from soldering side)

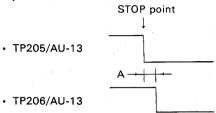
12-28. CH-2 REC OFF DELAY TIME ADJUSTMENT

NOTE; Applicable parts number 1-604-337-16 and later.

«machine conditions for adjustment»

· Change the mode, CH-2 REC mode to STOP mode.

«spec.»



TRIG; SINGLE TP205/AU-13 (-)

•
$$A = 50 + 5mS - 0mS$$

ØRV209/AU-13

Reference

When A \leq 50mS ; Turn the RV209 clockwise.

(adjust from soldering side)

When A > 50mS; Turn the RV209 counterclockwise.

(adjust from soldering side)

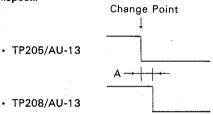
12-29. CH-2 REC/EE OFF DELAY TIME ADJUSTMENT

NOTE; Applicable parts number 1-604-337-16 and later.

«machine conditions for adjustment»

- STOP mode
- PB/PB EE SW; Change the switch PB EE to PB position.

«spec.»



TRIG ; SINGLE TP205/AU-13 (-)

$$A = 60 + 5mS - 0mS$$

Reference

When A \leq 60mS; Turn the RV207 clockwise.

(adjust from soldering side)

When A > 60mS; Turn the RV207 counterclockwise.

(adjust from soldering side)

SECTION 13 VIDEO SYSTEM ALIGNMENT

[Equipment Required]

- Oscilloscope
 Frequency Counter
- Blank Tape
- · Alignment Tape

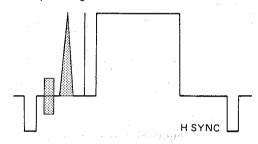
RR5-2SB PAL (Parts No.8-960-020-62)

	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	3 TAY 10	
Time (min.)	Video	Audio	Time code
5	Color bars	3kHz,OdB	1 kHz
5	R-F sweep	. — ·	-
5	Monoscope	_	· -
2.5	Modulated 20T pulse	1kHz,OdB	-
2.5	R-F 8MHz	10kHz,-10dB	

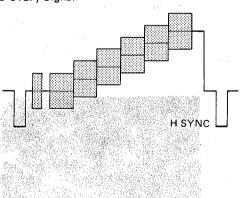
- Video Signal Generator
- · Video Sweep Generator
- DC Voltmeter
- Vectorscope

[Video Signal Required] • 75% color bar signal

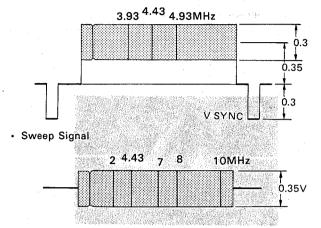
- B/W Video Signal
- · Modulated 20T pulse signal



· Linearity (5 STEP) Signal



· Gated Sweep Signal



[Switch/VR Setting]

* Front Panel	
AUDIO MONITOR	MIX
HEADPHONES LEVEL	MID
TRACKING	FIXED
VIDEO	AUTO
AUDIO LIMITER	OFF
MIXING SELECT	OFF
MODE SELECT	NORMAL
INPUT SELECT	LINE
SKEW	CLICK
REMOTE 1/2	2 (36P)
REMOTE/LOCAL	LOCAL
PB/PB • EE	PB • EE
* Rear Panel	
FRAMING SERVO	ON
VIDEO IN	ON
SERVO LOCK	AUTO

SECTION TO VEDEO SYSTEM ALIGNMENT

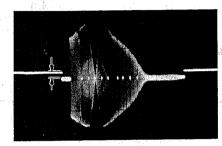
13-1. PLAYBACK AMPLIFIER ADJUSTMENT

13-1-1. DC Balance Adjustment

«machine conditions for adjustment» 38 8

- · Playback mode; Alignment tape (RF sweep segment)
- · Short between TP2 and GND/SV board with jumper.

«spec.)



TRIG; TP3/YD board

Townson Pri

- · Equalize the DC levels of both channels.
- RV3/YD board

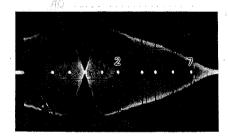
13-1-2. RF 7MHz Adjustment

«machine conditions for adjustment»

- Playback mode ; Alignment tape (RF sweep segment)
- Short between TP2 and GND/SV board with jumper.
- Turn RV2/YD board (CH-A) fully counterclockwise.
- Turn RV2/YD board (CH-A) fully counterclockwise.
 (adjust from the component side)
- Turn RV1/YD board (CH-B) fully counterclockwise. (adjust from the component side)

«spec.»

TP6/YD board ⋈⊙



TRIG; TP3/YD board

- · Belinear of envelope 2MHz to 7MHz.

NOTE; After completing this adjustment, perform the section 13-1-3. RF 5.4MHz adjustment.

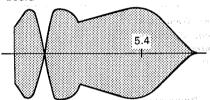
13-1-3. RF 5.4MHz Tuning

«machine conditions for adjustment»

- · Playback mode; Alignment tape (RF sweep segment)
- · Short between TP2 and GND/SV board with jumper.
- Turn RV2/YD board (CH-A) fully clockwise. (adjust from the component side)
- Turn RV1/YD board (CH-B) fully clockwise. (adjust from the component side)

«spec.»

TP6/YD board



TRIG; TP3/YD board

- Maximize the level at 5.4MHz portion.
- **⊘**LV1/YD board (CH-B)

NOTE; After completing this adjustment, perform the section 13-1-4. RF Frequency Response adjustment

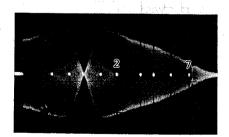
13-1-4. RF Frequency Response Adjustment

«machine conditions for adjustment»

- Playback mode ; Alignment tape (RF sweep segment)
- · Short between TP2 and GND/SV board with jumper.

«spec.»

TP6/YD board



TRIG; TP3/YD board

2MHz	7MHz
100% reference	35 ± 5%

RV2/YD board (CH-A)

RV1/YD board (CH-B)

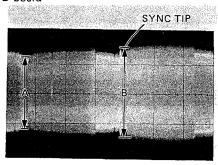
13-1-5. Y-RF Balance/Level Adjustment

«machine conditions for adjustment»

Playback mode; Alignment tape (color bar segment)

«spec.»

• TP29/YD board



TRIG : TP3/YD board:

- $\cdot A = B$
- A = 0.3 \pm 0.04V (SYNC TIP portion)
- RV6/YD board (level, pre-adjustment)

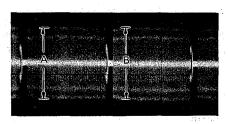
13-1-6. Chroma RF Balance/Level Adjustment

«machine conditions for adjustment»

Playback mode; Alignment tape (color bar segment)

«spec.»

• TP10/YD board combined to the second of th



TRIG; TP3/YD board

- A = B
- RV5/YD board (balance)
- $A = 0.2 \pm 0.01V$
- RV7/YD board (level)

13-1-7. Audio Bias Trap Adjustment

«machine conditions for adjustment»

 Install the recorded tape that the CTL signal is only prerecorded (video signal is not recorded), and put the AUDIO CH-1 INSERT mode.

«spec.»

- TP9/YD board
- · Minimize the level
- **⊘**LV3/YD board

13-2. Y DEMODURATOR ADJUSTMENT

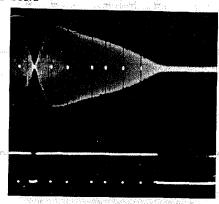
13-2-1. Dropout Compensator Sensitivity Adjustment

«machine conditions for adjustment»

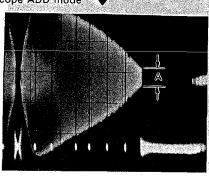
Playback mode ; Alignment tape (RF sweep segment)

«spec.»

TP29/YD board



- TP12/YD board
- · Oscilloscope ADD mode



- Turn in fully counterclockwise first, and then turn slowly in clockwise to meets the specification.
- A = 34 \pm 5mV
- RV8/YD board

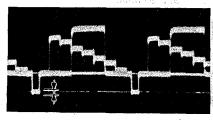
13-2-2. Carrier Balance Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

· TP22/YD board

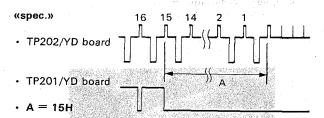


- · Mimimize the noise level at SYNC portion.
- RV9/YD board

13-2-3. V BLK Pulse Width Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)



RV201/YD board

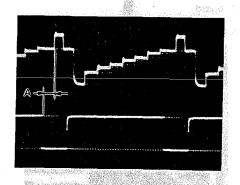
13-2-4. H BLK Pulse Width Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

TP202/YD board



- TP201/YD board
- \cdot A = 6 \pm 1 μ S
- RV202/YD board

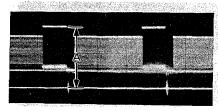
13-2-5. B/W Mode Y Output Level Adjustment

«machine conditions for adjustment»

- · Playback mode; Alignment tape (color bar segment)
- · Short between TP10 and GND/YD board with jumper.

«spec.»

VIDEO OUT (75Ω terminated)



- $A = 1 \pm 0.05V$
- **⊘**RV10/YD board

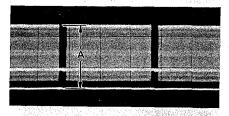
13-2-6. COLOR Mode Y Output Level Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

VIDEO OUT (75Ω terminated)



- $A = 1 \pm 0.05V$
- **⊘**RV12/YD board

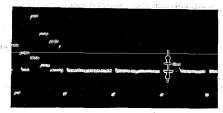
13-2-7. Dropout Compensator Level Adjustment

«machine conditions for adjustment»

· Playback mode ; Alignment tape (color bar segment)

«spec.»

· TP27/YD board



political PET DMYSS WAG 9

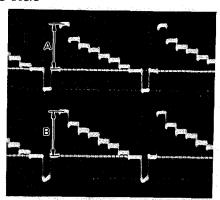
 Equalize the levels, pedestal level and compensated portion level.

NOTE; Normally switching point comes in video portion (2.25H before V sync), so when you perform DOC level adj., turn a TRACKING VR to move switching point in EQ pulse portion (just before V sync) for easy adj..

⊘RV14/YD board

«spec.»

TP22/YD board



- · TP24/YD board
- $\cdot A = B$

✔RV13/YD board
✔LV4/YD board

13-3. CHROMA DEMODULATOR ADJUSTMENT 13-3-1. REF OSC Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

- · TP2/CD board
- \cdot 4,433,619 \pm 5Hz

⊘T1/CD board

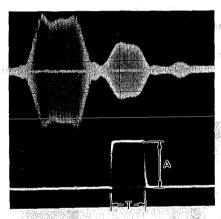
13-3-2. ACC Burst Flag Adjustment

«machine conditions for adjustment»

Playback mode; Alignment tape (color bar segment)

«spec.»

· TP6/CD board



- TP110/CD board
- . A = $4.5 \pm 0.1V$
- RV110/CD board (level)
- $T = 2.2 \pm 0.1 \mu S$
- RV109/CD board (width)
- Phase the center positions of the burst and the burst flag pulse.
- RV108/CD board (phase)

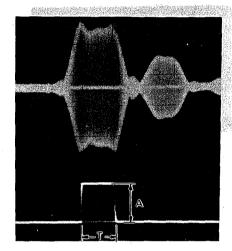
13-3-3. APC Burst Flag Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

• TP6/CD board



- · TP104/CD board
- $A = 3.4 \pm 0.1V$
- RV104/CD board (level)
- T = 2.2 \pm 0.1 μ S
- RV103/CD board (width)
- Phase the center positions of the pilot burst and the burst flag pulse.

remember of the second

@RV102/CD board (phase)

13-3-4. VCO Frequency Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

- TP3/CD board
- \cdot 8.4 \pm 0.05V
- **⊘**RV106/CD board

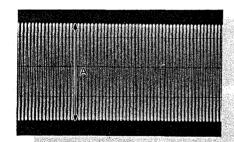
13-3-5. PB5.36MHz Tuning Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

• TP108/CD board



• A = 0.6 + 0.1V- 0.05V

RV107/CD board

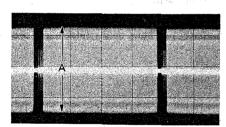
13-3-6. ACC Level Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

• TP4/CD board



TRIG; TP5/CD board

• $A = 0.8 \pm 0.05V$

RV1/CD board

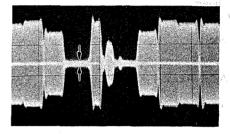
13-3-7. Converter Balance Adjustment

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; color bar

«spec.»

• TP6/CD board



- · Minimize the carrier leak.

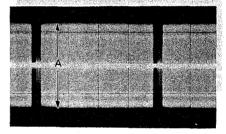
13-3-8. DUB Chroma Level Adjustment

«machine conditions for adjustment»

Playback mode; Alignment tape (color bar segment)

«spec.»

• TP11/CD board



- $A = 1 \pm 0.1V$
- ØRV399 (RV6)/CD board

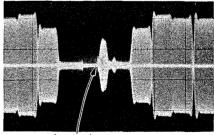
13-3-9. Pilot Burst Gate Pulse Adjustment

«machine conditions for adjustment»

· Playback mode; Alignment tape (color bar segment)

«spec.»

· TP9/CD board



front edge

- · Mute to front edge of burst.
- RV105/CD board

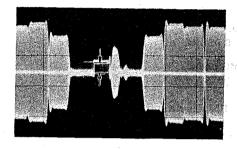
13-3-10. Pilot Burst Eliminator DC Level Adjustment

«machine conditions for adjustment»

Playback mode ; Alignment tape (color bar segment)

«spec.»

· TP9/CD board



· Equalize the DC levels.

RV2/CD board

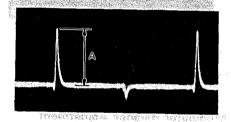
13-3-11. PB 135degrees Burst Tuning

«machine conditions for adjustment»

Playback mode; Alignment tape (color bar segment)

«spec.»

• TP501/CD board



Maximize the A level.

⊘LV501/CD board

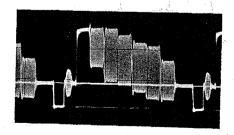
13-3-12. Y/C Mix Level Adjustment

«machine conditions for adjustment»

· Playback mode ; Alignment tape (color bar segment)

«spec.»

TP204/CD board



Adjust the chroma level to Y 100% level.

RV201/CD board

13-3-13. Noise Canceller Adjustment

«machine conditions for adjustment»

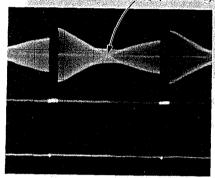
· Remove YD board from the set.

- Tum RV203 (RV240)/CD board fully counterclockwise. (adjust from component side)
- Feed a 80mVp-p gated sweep signal to 36A/CD board.

«spec.»

TP204/CD board

dip point of approx. 2MHz



Minimize the dip point level professional transfer.

NOTE; After completing this adjustment, insert the YD board to the set.

Triestalistic tot arresting

NOTE; After completing this adjustment, perform the section 13-3-14. Noise Canceller Low-range Compensator Adjustment.

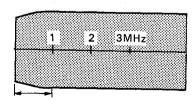
13-3-14. Noise Canceller Low-range Compensator Adjustment

«machine conditions for adjustment»

- Remove YD board from the set.
- Feed a 1Vp-p gated sweep signal to 36A/CD board.

«spec.»

TP204/CD board



Flatten the OMHz to 1MHz portion.

NOTE; After completing this adjustment, insert the YD board to the set.

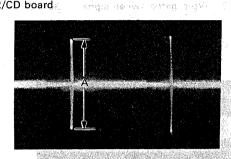
13-3-15. Time Code Detector Level Adjustment

«machine conditions for adjustment» - Company of the conditions

· Playback mode; Alignment tape (time code segment)

«spec.»

• TP102/CD board



• $A = 2.8 \pm 0.1 V$

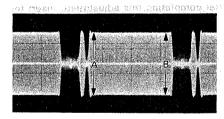
13-3-16. DG Compensator Adjustment

«machine conditions for adjustment»

- · Playback self-recorded portion.
- · VIDEO IN; Linearity (5 STEP) signal (with sub-carrier and burst)

«spec.»

· TP6/CD board



A = B

RV7/CD board

13-3-17. TBC VCO Shift Adjustment

«machine conditions for adjustment»

- · SEARCH mode; Alignment tape (color bar segment)
- · Turn the dial to FWD and then STILL position.
- · MODE SELECT SW; TBC

«spec.»

- TP3/CD board
- 9.15 \pm 0.05V
- RV302/CD board

«machine conditions for adjustment»

- · SEARCH mode; Alignment tape (color bar segment)
- Turn the dial to REV and then STILL position.
- · MODE SELECT SW; TBC

«spec.»

- TP3/CD board
- 7.7 \pm 0.05V

13-4. MODULATOR ADJUSTMENT

13-4-1. Sync Tip Carrier Adjustment

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; no signal

«spec.»

- TP9/MD board
- \cdot 4.8 \pm 0.05MHz
- **⊘** RV4/MD board

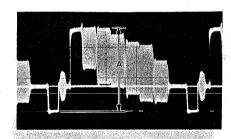
13-4-2. FM Deviation Adjustment

«machine conditions for adjustment»

- · EE mode.
- VIDEO IN; color bar

«spec.»

VIDEO OUT (75Ω terminated)



• $A = 1 \pm 0.05V$

⊘ RV1/MD board

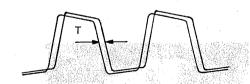
13-4-3. Modulator Balance Adjustment

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; no signal

«spec.»

- TP9/MD board
- ; Scope CH-A
- TP9/MD board (INVERT); Scope CH-B CH-A, CH-B; ALT mode



T = 0

⊘RV3/MD board

13-4-4. White Clip Adjustment

«machine conditions for adjustment»

- EE mode.
- VIDEO IN; color bar
- · Short between TP7 and TP8/MD board with jumper.

TP12/MD board



TRIG; TP5/MD board

	12	20 1	
BA	==	100	0_
41555	Security Section		Sparies Service

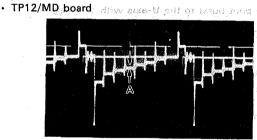
⊘RV2/MD board

13-4-5. SC Trap Adjustment

«machine conditions for adjustment»

- EE mode
- VIDEO IN; color bar
- · Short between TP7 and TP8/MD board with jumper.

«spec.»



TRIG; TP5/MD board

- · Minimize the A amplitude. (4.43MHz)
- **⊘**LV1/MD board

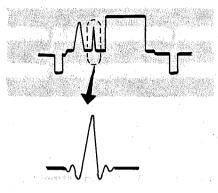
13-4-6. Modulator Frequency Response Adjustment

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; modulated 20T pulse

«spec.»

TP3/MD board



- · Equalize the both levels, pre-shoot level and under-shoot level.

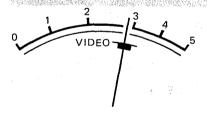
13-4-7. Video Meter Adjustment

«machine conditions for adjustment»

- · EE mode
- · VIDEO IN ; color bar
- · VIDEO SW; AUTO

«spec.»

VIDEO/RF meter



- · Set the indication in the center of blue scale.
- RV202/MD board

13-4-8. 5.36MHz Oscillator Adjustment

«machine conditions for adjustment»

• EE mode

«spec.»

- · TP109/MD board
- · 5,357,437 ± 4Hz
- **⊘**CV101/MD board

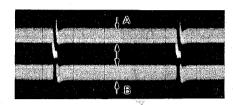
13-4-9, APC fo Adjustment ways of the state of the state

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; color bar

«spec.»

• TP104/MD board



A = B

⊘T101/MD board

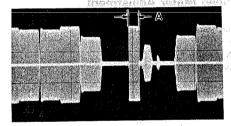
13-4-10. Pilot Burst Width Adjustment

«machine conditions for adjustment)

- EE mode
- VIDEO IN ; color bar

«spec.»

• TP107/MD board



 \cdot A = 3.5 \pm 0.1 μ S

RV103/MD board

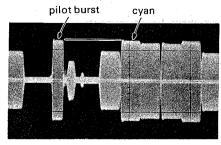
13-4-11. Pilot Burst Level Adjustment

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; color bar

«spec.»

• TP108/MD board



· Equalize the both levels, pilot burst level and cyan level.

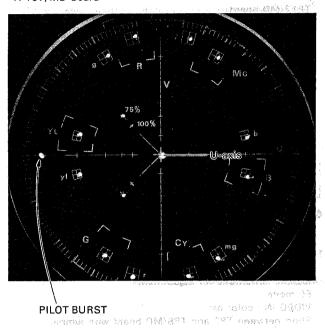
13-4-12. Pilot Burst Phase Adjustment work and a second

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; color bar

«spec.»

• TP107/MD board



Phase the pilot burst to the U-axis with ± 1 degree.

⊘LV101/MD board

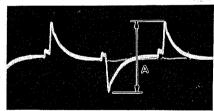
13-4-13. REF 135degrees Burst Pulse Level Adjustment

«machine conditions for adjustment»

- EE mode
- · VIDEO IN ; color bar

«spec.»

TP206/MD board



 \cdot A = 1.0 ± 0.2V

ØRV203/MD board

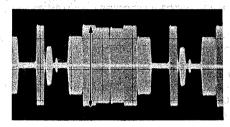
13-4-14. REC ACC Level Adjustment

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; color bar

«spec.)

TP108/MD board on the common services



• Chroma Level = $0.4 \pm 0.02V$

ØRV102/MD board

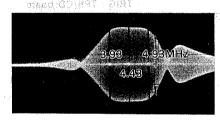
13-4-15. REC Chroma Frequency Response Adjustment

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; gated sweep signal (with burst)

«spec.»

• TP108/MD board



4.43MHz	3.93MHz	4.93MHz
100% reference	90 ± 5%	90 ± 5%

⊘FL101/MD board

13-5. RECORD AMPLIFIER ADJUSTMENT

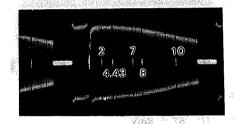
13-5-1. Record Current Frequency Response Adjustment

«machine conditions for adjustment»

- · REC mode
- VIDEO IN; B/W signal
- · Short between TP4 and E2/RP board with jumper.
- Unsolder between TP5 and TP6/RP board (CH-A), and connect low resistor (1 to $5.1\,\Omega$) to unsoldered portion.
- Unsolder between TP8 and TP9/RP board (CH-B), and connect low resistor (1 to $5.1\,\Omega$) to unsoldered portion.
- · Short between TP6 and GND/RP board with jumper. (CH-A)
- Short between TP9 and GND/RP board with jumper. (CH-B)
- · Feed a sweep signal to TP3/RP board.

«spec.»

· TP5/RP board (GND ; TP6) CH-A



2MHz	4.43MHz	7MHz	8MHz	10MHz
100% reference	100	94	84	64 + 5%
	± 10%	± 10%	± 5%	- 10%

RV3/RP board (CH-A)

«spec.»

• TP8/RP board (GND; TP9) CH-B

2MHz	4.43MHz	7MHz	8MHz	10MHz
100% reference	100	94	84	64 + 5%
	± 10%	± 10%	± 5%	- 10%

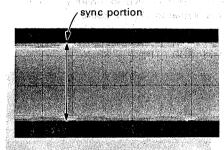
13-5-2. Y Record Current Adjustment

«machine conditions for adjustment»

- · REC mode
- VIDEO IN; B/W signal
- Unsolder between TP5 and TP6/RP board (CH-A), and connect low resistor (1 to $5.1\,\Omega$) to unsoldered portion.
- Unsolder between TP8 and TP9/RP board (CH-B), and connect low resistor (1 to $5.1\,\Omega$) to unsoldered portion.
- · Short between TP6 and GND/RP board with jumper. (CH-A)
- · Short between TP9 and GND/RP board with jumper. (CH-B)

«spec.»

• TP5/RP board (GND; TP6) or TP8/RP board (GND; TP9)



• Sync Level = $67 + 8\text{mA} \times \text{R} (\Omega)$ $-5\text{mA} \times \text{R} (\Omega)$ (cf. R = 1Ω 67 + 8mV)

⊘RV2/RP board

13-5-3. Chroma Record Current Adjustment

«machine conditions for adjustment»

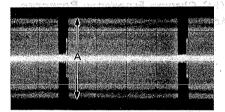
- · REC mode
- · VIDEO IN ; color bar
- · Short between TP4 and E2/RP board with jumper.
- Unsolder between TP5 and TP6/RP board (CH-A), and connect low resistor (1 to 5.1Ω) to unsoldered portion.
- Unsolder between TP8 and TP9/RP board (CH-B), and connect low resistor (1 to $5.1\,\Omega$) to unsoldered portion.
- · Short between TP6 and GND/RP board with jumper. (CH-A)
- · Short between TP9 and GND/RP board with jumper. (CH-B)

«how to adjustment»

- TP5/RP board (GND; TP6) or TP8/RP board (GND; TP9)
- Chroma Level = (15 \pm 5mA) \times R (Ω) (cf. R = 2 Ω 30 \pm 10mV)

«spec.»

- Playback self-recorded portion. (After removing the short jumper of between TP4 and E2/RP board)
- · TP1/CD board



TRIG; TP5/CD board

$$A = 0.23 + 0.015V - 0.04V$$

Reference

Chroma Level \geq 0.23V; Turn RV1 to clockwise.

(adjust from soldering side)

Chroma Level \leq 0.23V ; Turn RV1 to counterclockwise.

(adjust from soldering side)

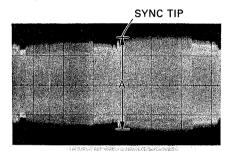
13-5-4. Y RF LEVEL Adjustment

«machine conditions for adjustment»

- · Playback self-recorded portion.
- · VIDEO IN ; color bar

«spec.»

• TP29/YD board



TRIG; TP3/YD board

- $A = 0.34 \pm 0.04V$
- RV6/YD board (level)

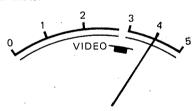
13-5-5. TRACKING METER Calibration

«machine conditions for adjustment»

- Playback self-recorded portion.
- · VIDEO IN ; color bar
- TRACKING ; FIXED

«spec.»

· VIDEO/RF meter



- · Set the scale 4.
- RV201/MD board

13-6. Y/C DELAY TIME ADJUSTMENT 13-6-1. PB Delay Time Adjustment

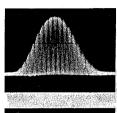
«machine conditions for adjustment»

 Playback mode; Alignment tape (modulated 20T pulse segment)

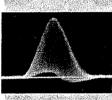
«spec.»

VIDEO OUT

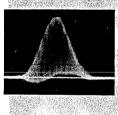
οк



Y progressed to C.



C progressed to Y.



- **⊘**DL1/CD board
- **⊘**CV1/CD board (fine adj.)

13-6-2. DUB Delay Time Adjustment

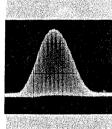
«machine conditions for adjustment»

· Playback mode; Alignment tape (modulated 20T pulse segnment)

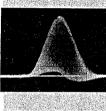
«spec.»

- DUB Y OUT (Scope CH-A)DUB C OUT (Scope CH-B)
- · Oscilloscope ADD mode

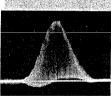
ОК



Y progressed to C.



C progressed to Y.



⊘DL2/CD board

CV2/CD board (fine adj.)

13-6-3. Record Delay Time Adjustment

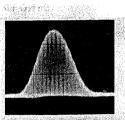
«machine conditions for adjustment»

- · Playback self-recorded portion:
- · VIDEO IN; modulated 20T pulse

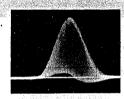
«spec.»

· VIDEO OUT

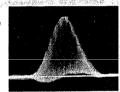
ОК



Y progressed to C.



C progressed to Y,



ODL101/MD board

CV102/MD board (fine adj.)

13-7. OVERALL FREQUENCY RESPONSE **ADJUSTMENT**

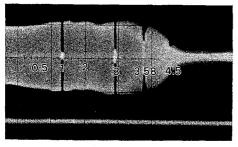
13-7-1. B/W mode Y Playback Frequency Response Adjustment

«machine conditions for adjustment»

- · Playback the self-recorded portion.
- · VIDEO IN; gated sweep (without burst)

«spec.»

· TP27/YD board



0.5 1 2 3 3.58 4.5
TOWN THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I

0.5MHz	1 MHz	2MHz	3MHz	3.58MHz	4.5MHz
100%	100	100+15	100+5	100 + 5	70 + 20
reference	± 5%	-10%	-10%	-10%	- 10%

⊘RV15/YD board

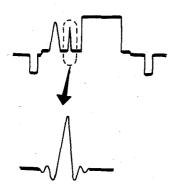
13-7-2. Color mode Y Phase Equalizer Adjustment

«machine conditions for adjustment»

- · Playback the self-recorded portion.
- · VIDEO IN; modulated 20T pulse
- · VIDEO LEVEL SW; MAN
- VIDEO LEVEL VR ; Adjust the level of VIDEO OUT (75 $\!\Omega$ terminated) in EE mode is 0.8Vp-p.

«spec.»

TP27/YD board



- · Equalize the both levels, pre-shoot level and under-shoot level.
- @RV11/YD board

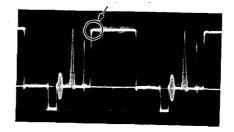
13-7-3. Smear Compensator Adjustment

«machine conditions for adjustment»

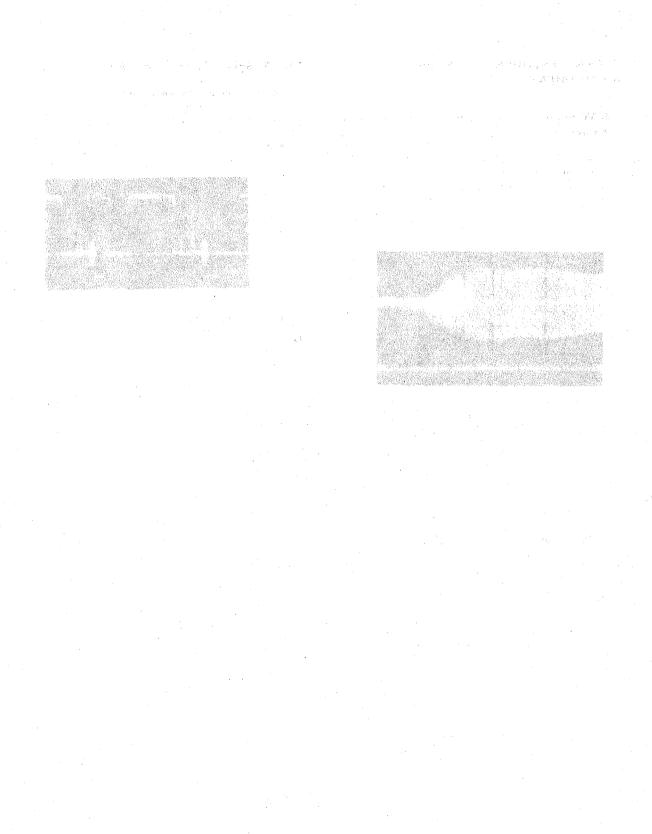
- · Playback self-recorded portion.
- · VIDEO IN; modulated 20T pulse

«spec.»

· VIDEO OUT



- · Be almost right angle.
- **⊘**RV5/MD board



SECTION 14 EDITING SYSTEM ALIGNMENT

[Equipment Required]

- Oscilloscope
- Audio Oscillator
- Audio Attenuator
- Blank Tape
- Alignment Tape
 DE COR DAY (5)

RR5-2SB PAL (Parts No.8-960-020-62)

Time (min.)	Video	Audio	Time code
4	Color bars	3kHz,OdB	1kHz
5	R-F sweep	- *.	
5	Monoscope	_	-
2	Modulated 20T pulse	1kHz,0dB	_
2	R-F 8MHz	10kHz,-10dB	45° π .ξ

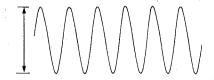
14-1. ROTARY ERASE CURRENT ADJUSTMENT

«machine conditions for adjustment»

- · VIDEO INSERT mode
- · VIDEO IN; color bar

«spec.»

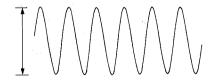
• TP104/RP board (CH-B)



• 1 \pm 0.02V

«spec.»

• TP102/RP board (CH-A)



· 1 ± 0.02V

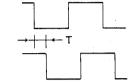
14-2. DT SWITCHING PULSE ADJUSTMENT

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; color bar
- · Short between 3B and 26B/MD board with jumper.

«spec.»

· 40B/MD board



• 39B/MD board

 $\bullet~T=5\pm0.1mS$

RV504/MD board

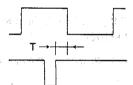
14-3. RE GATE PULSE POSITION ADJUSTMENT

«machine conditions for adjustment»

- EE mode
- · VIDEO IN; color bar
- · Short between 3B and 30B/MD board with jumper.

«spec.»

· 39B/MD board



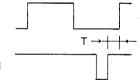
TP504/MD board

 \cdot T = 3 \pm 0.05mS

RV501/MD board (CH-A)

«spec.»

• 39B/MD board



TP503/MD board

• $T = 3 \pm 0.05 mS$

RV502/MD board (CH-B)

14-4. TIME CODE PLAYBACK/OUTPUT LEVEL ADJUSTMENT

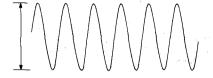
NOTE; Applicable parts number 1-604-341-11 to -14.

«machine conditions for adjustment».

· Playback mode; Alignment tape (time code segment)

«spec.»

• TP104/TC-13



· 1.5 ± 0.1V

⊘RV102/TC-13 (Playback Level)

«spec.»

· TC OUT

 \cdot 0 \pm 0.5dB

ØRV103/TC-13 (Output Level)

14-4. TIME CODE PLAYBACK AMPLIFIER ADJUSTMENT

14-4-1. Playback Amplifier Offset Adjustment

NOTE; Applicable parts number 1-604-341-15 and later.

«machine conditions for adjustment»

STOP mode

«spec.»

• TP105/TC-13

• 0 ± 0.2V

ØRV103/TC-13

14-4-2. Time code Output Level Adjustment

NOTE; Applicable parts number 1-604-341-15 and later.

«machine conditions for adjustment»

· Playback mode; Alignment tape (time code segment)

«spec.»

at Morroad

MMODIA WITKYS DWITE

TC OUT

• 0 ± 0.5dB

ØRV102/TC-13

Reference; The level at TC OUT is $0 \pm 2 dB$.

14-5. TIME CODE RECORD CURRENT ADJUSTMENT

«machine conditions for adjustment»

· Playback the self-recorded portion.

· VIDEO IN ; color bar

• TC IN; rectangular wave (sine wave), 1.2kHz, 0dB

«spec.»

• TP104/TC-13



· 1.9 ± 0.1V

ØRV101/TC-13

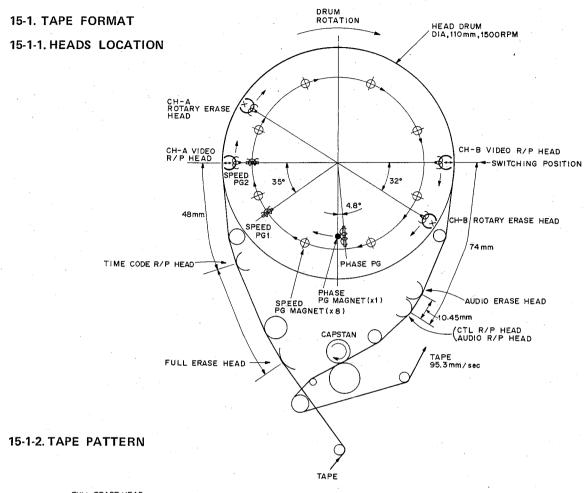
Reference

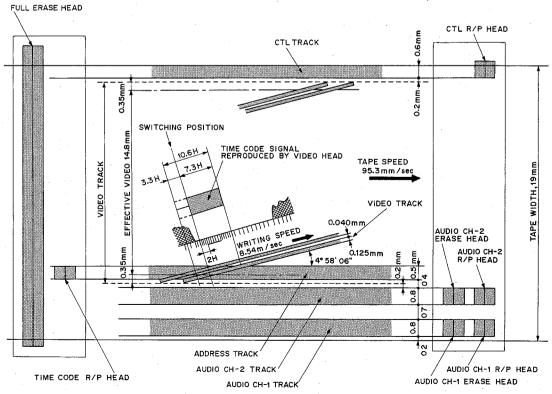
Time code level < 1.9V; Turn the RV101 to counterclockwise. (adjust from the component side)

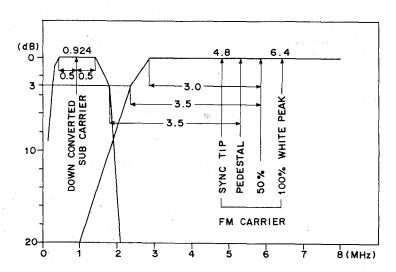
Time code level \geq 1.9V; Turn the RV101 to clockwise.

(adjust from the component side)

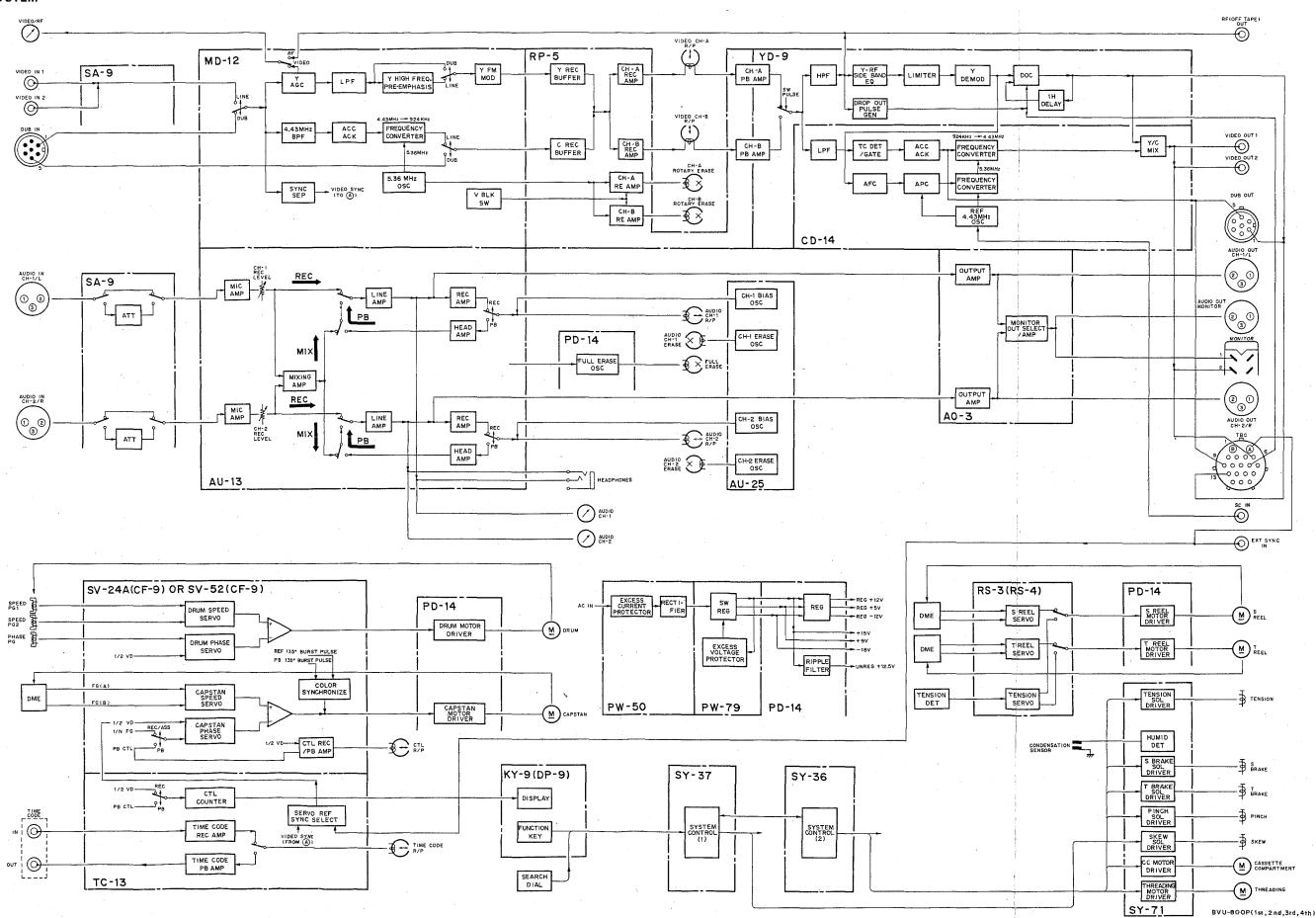
SECTION 15 BLOCK DIAGRAM





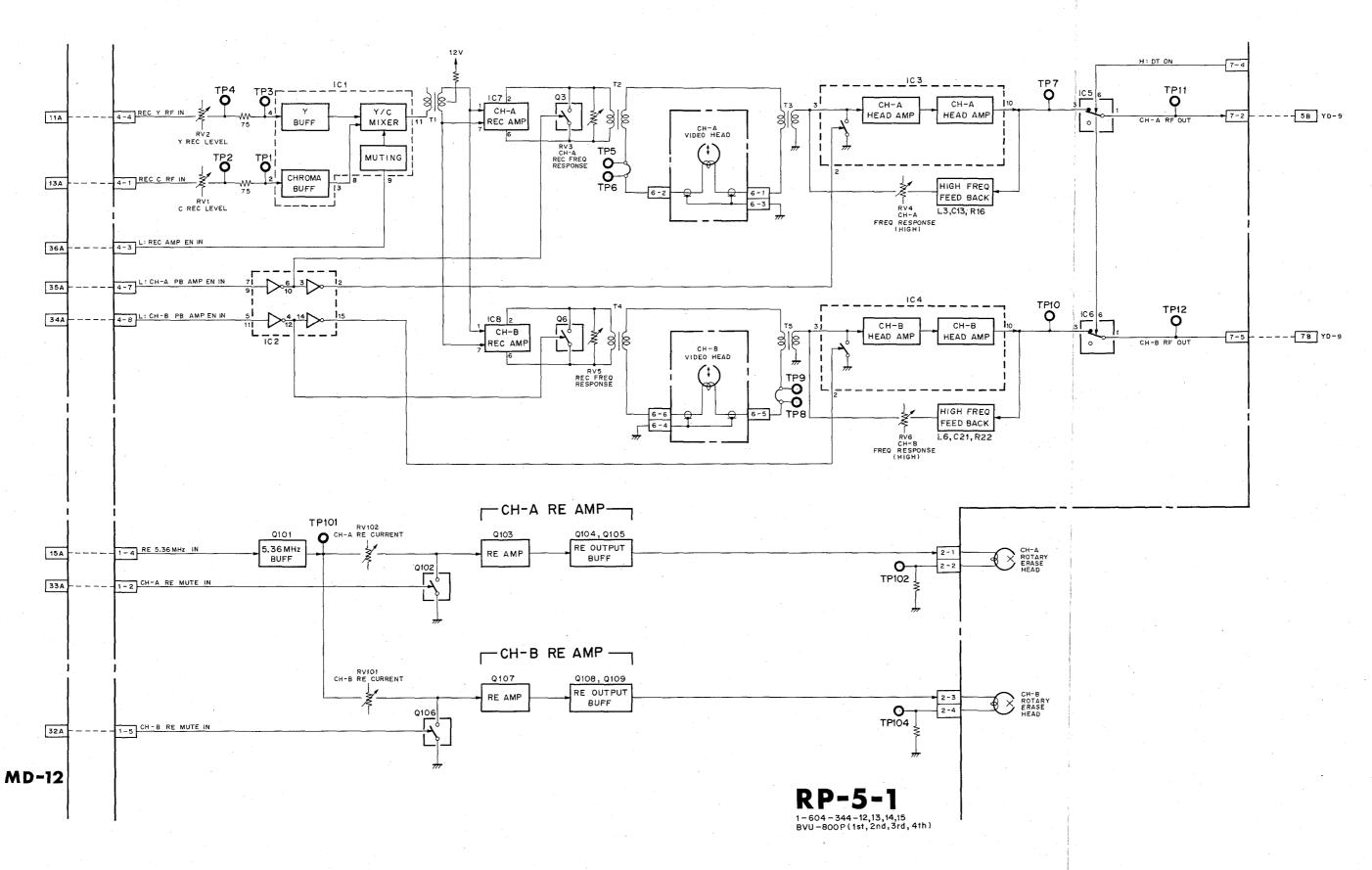


OVERALL SYSTEM

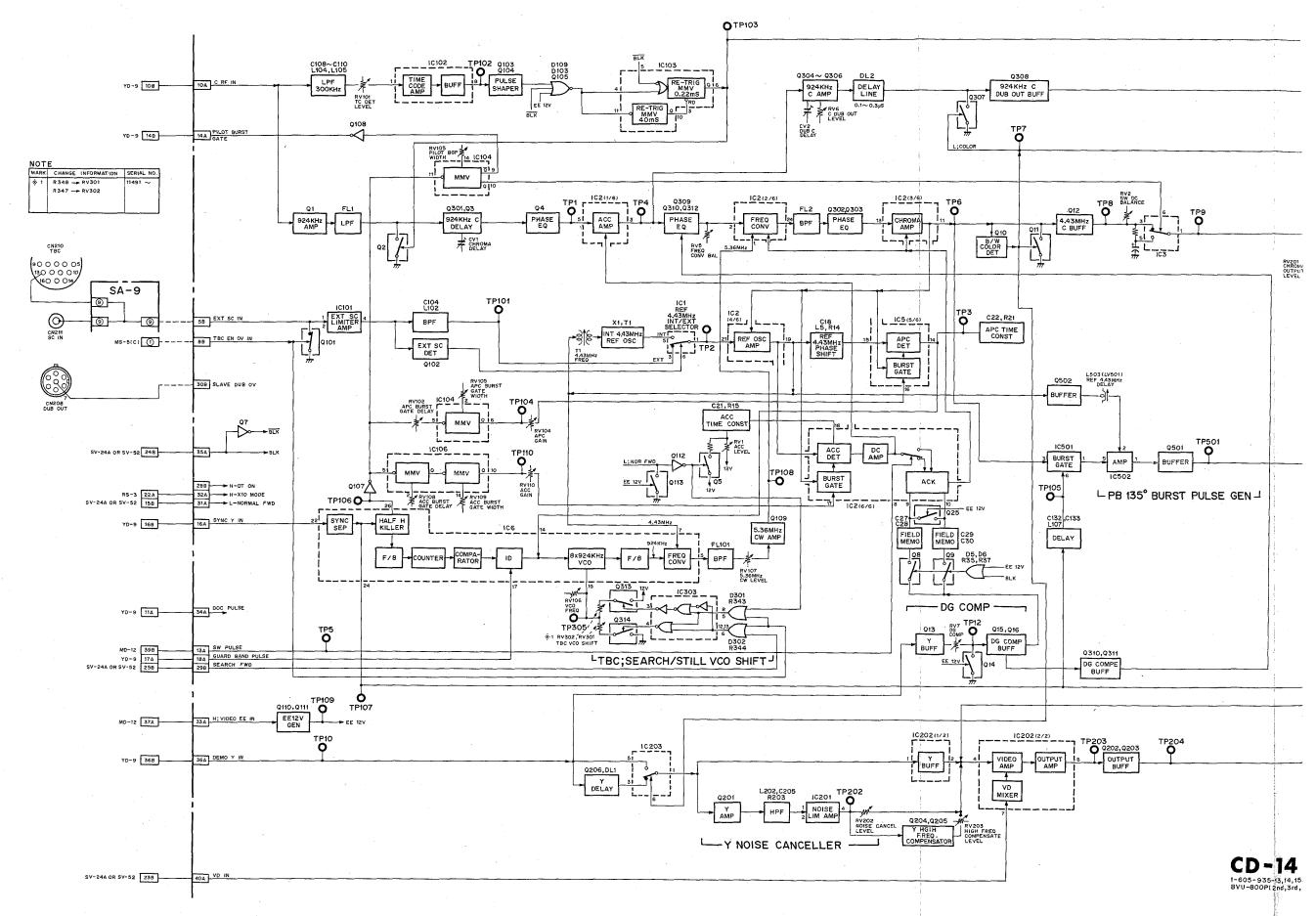


15-4

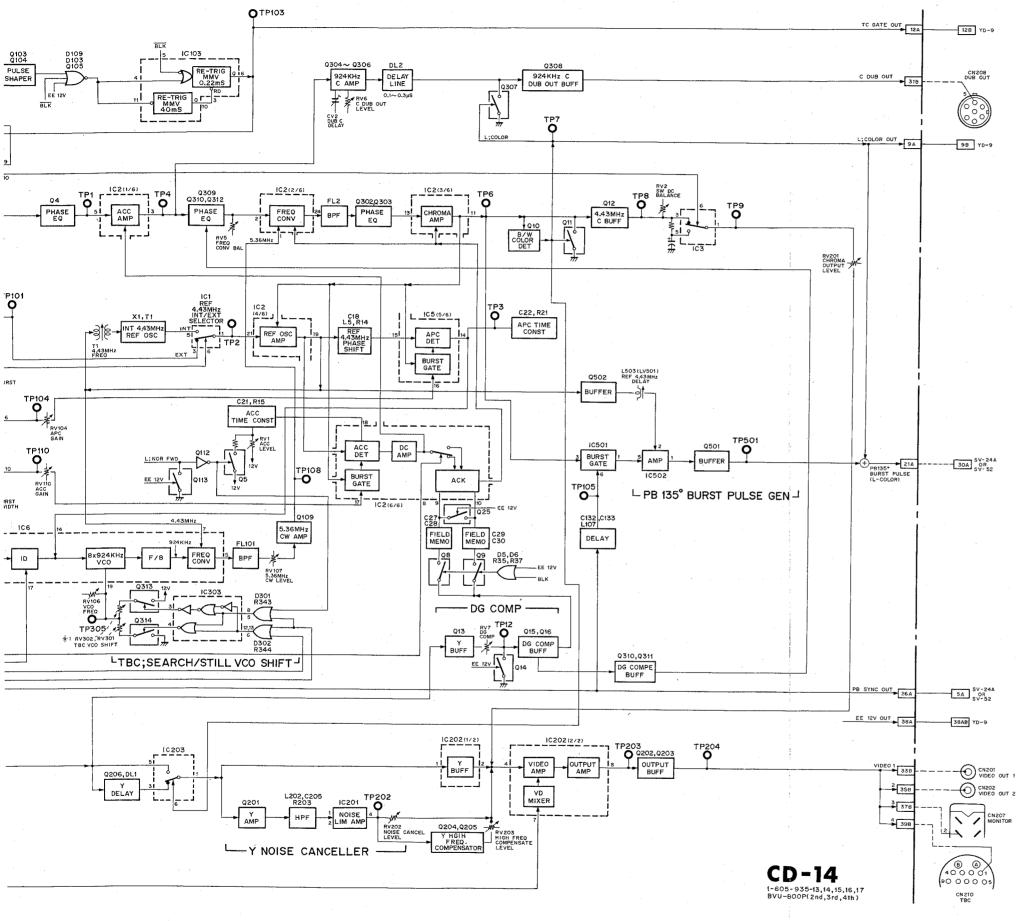
Y/C REC PB AMPLIFIER ROTARY ERASE AMPLIFIER



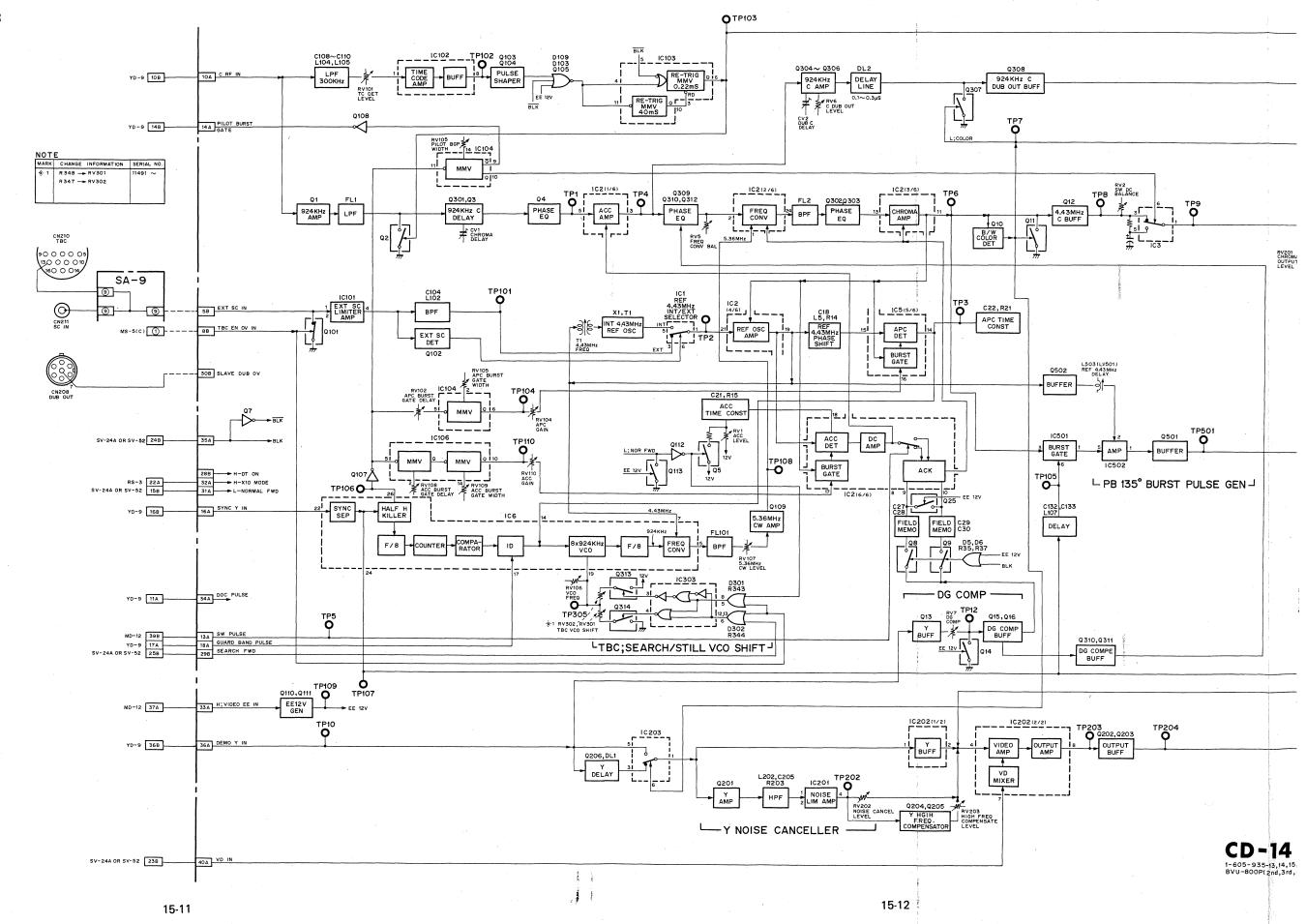
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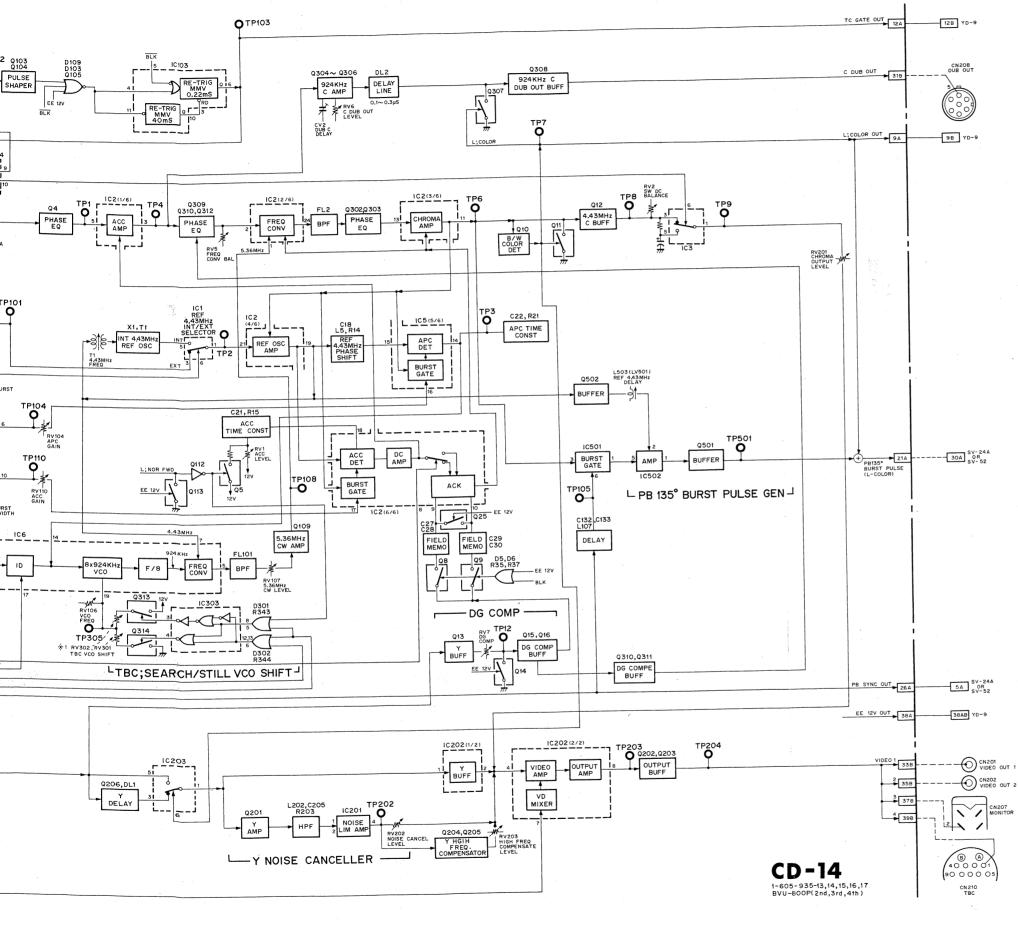


IOD

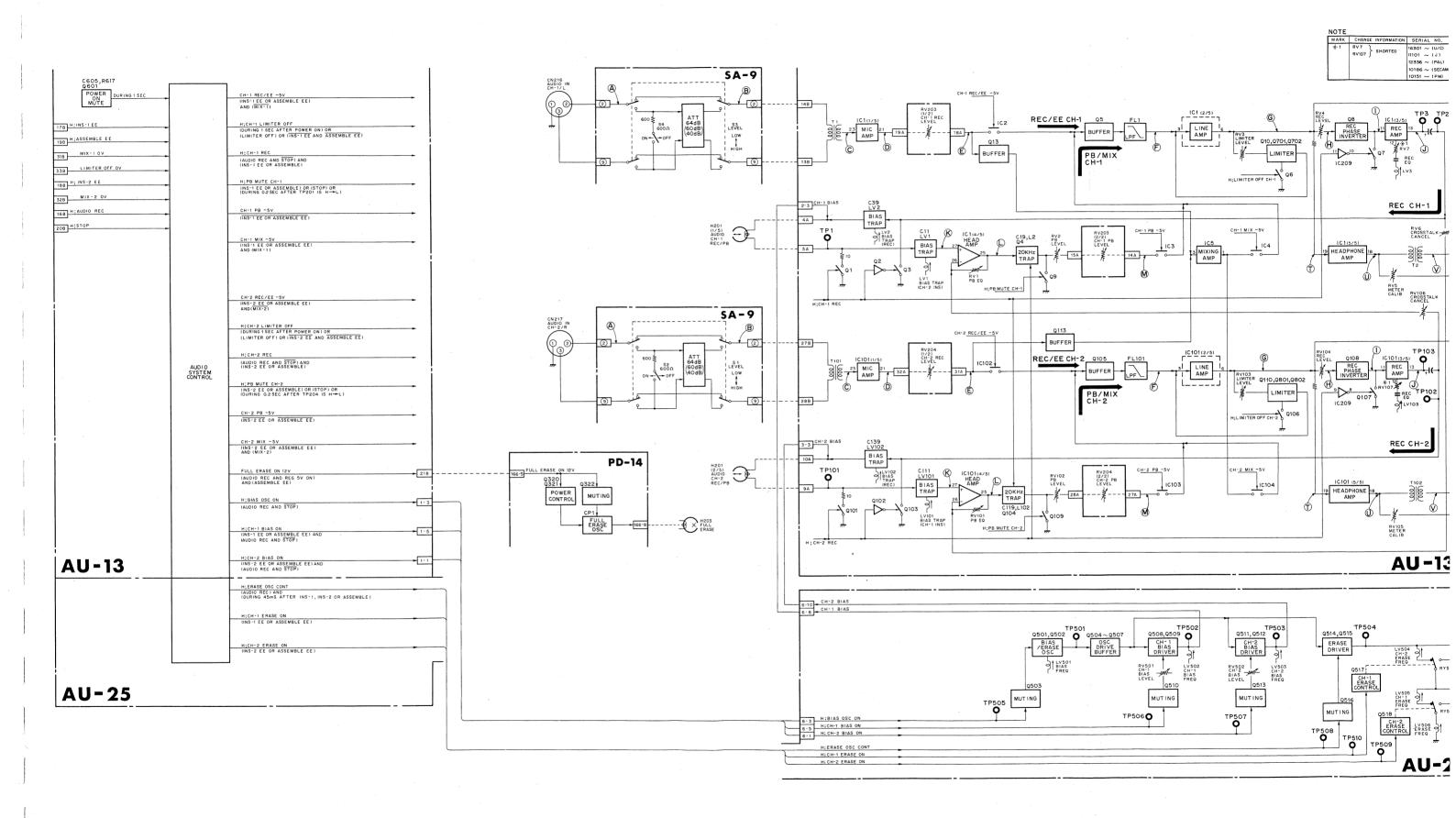


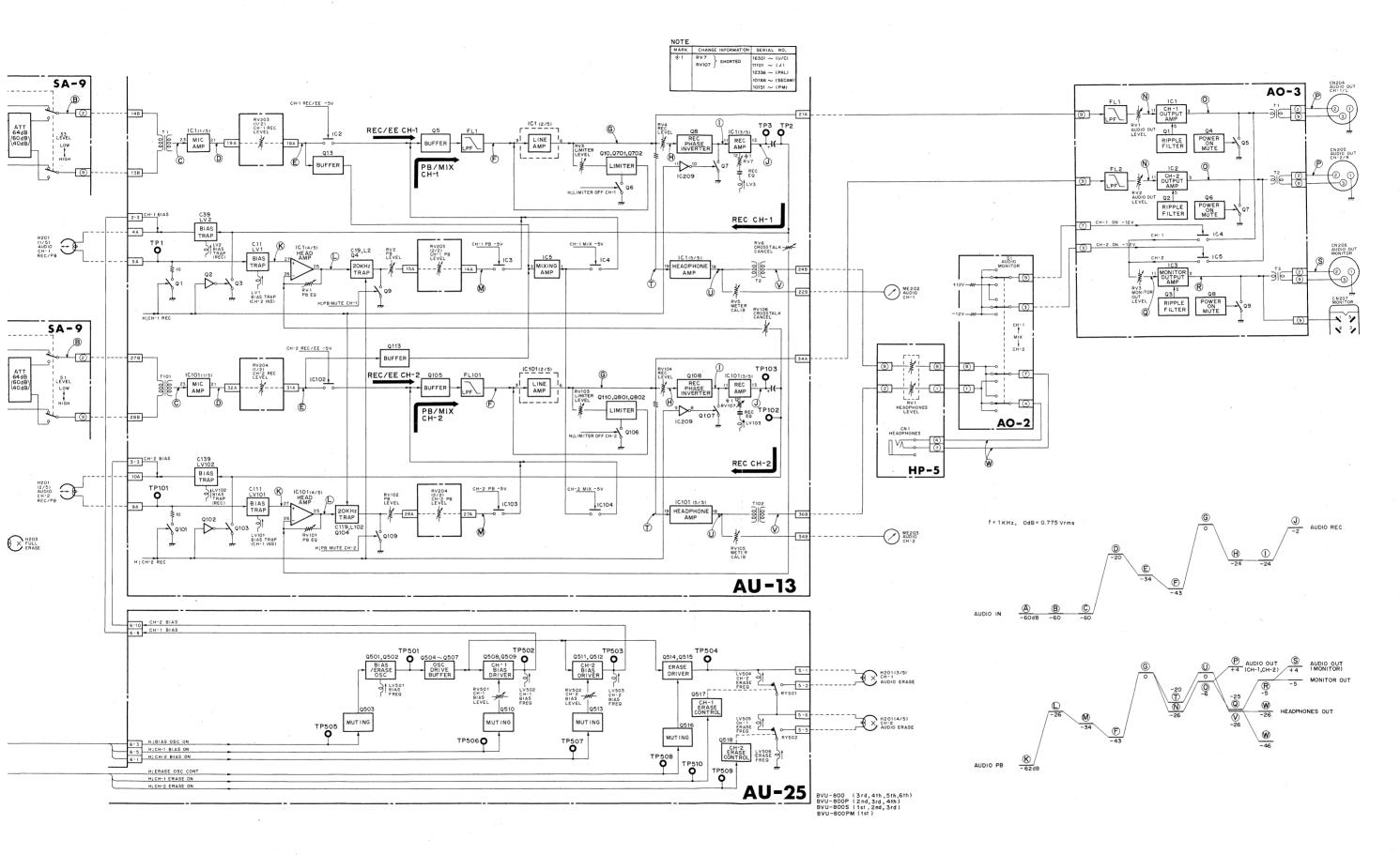
CHROMA DEMODULATOR



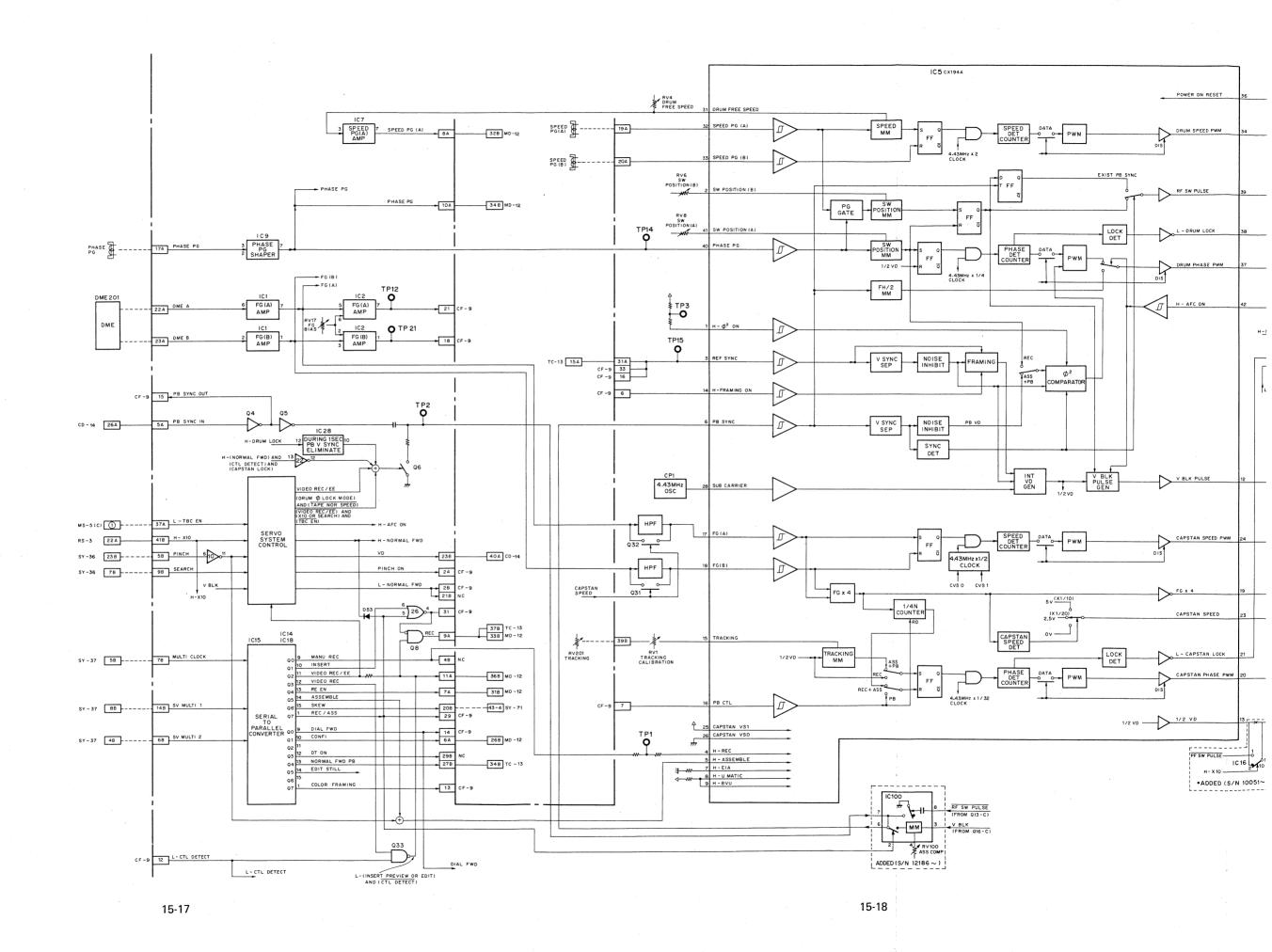


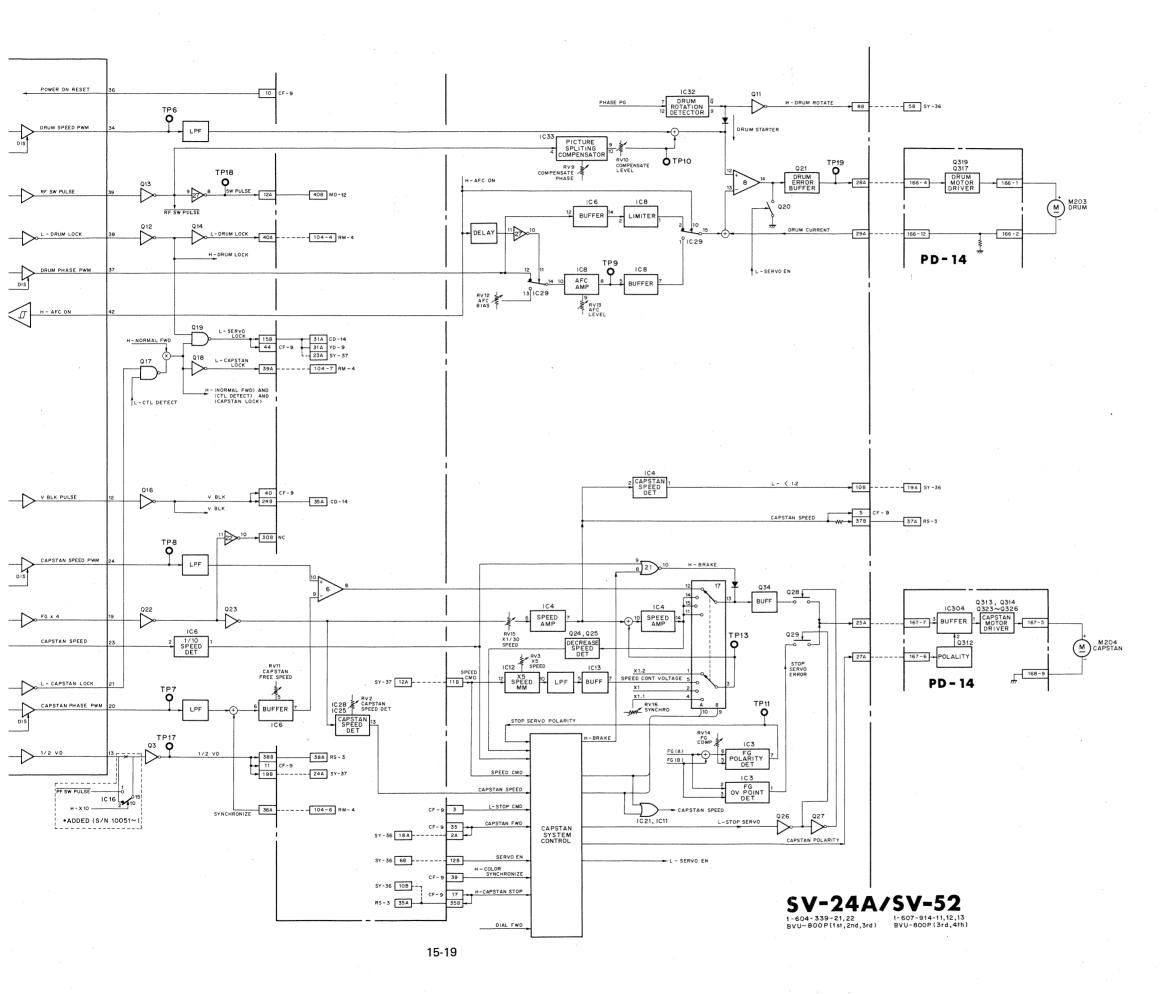
AUDIO SYSTEM



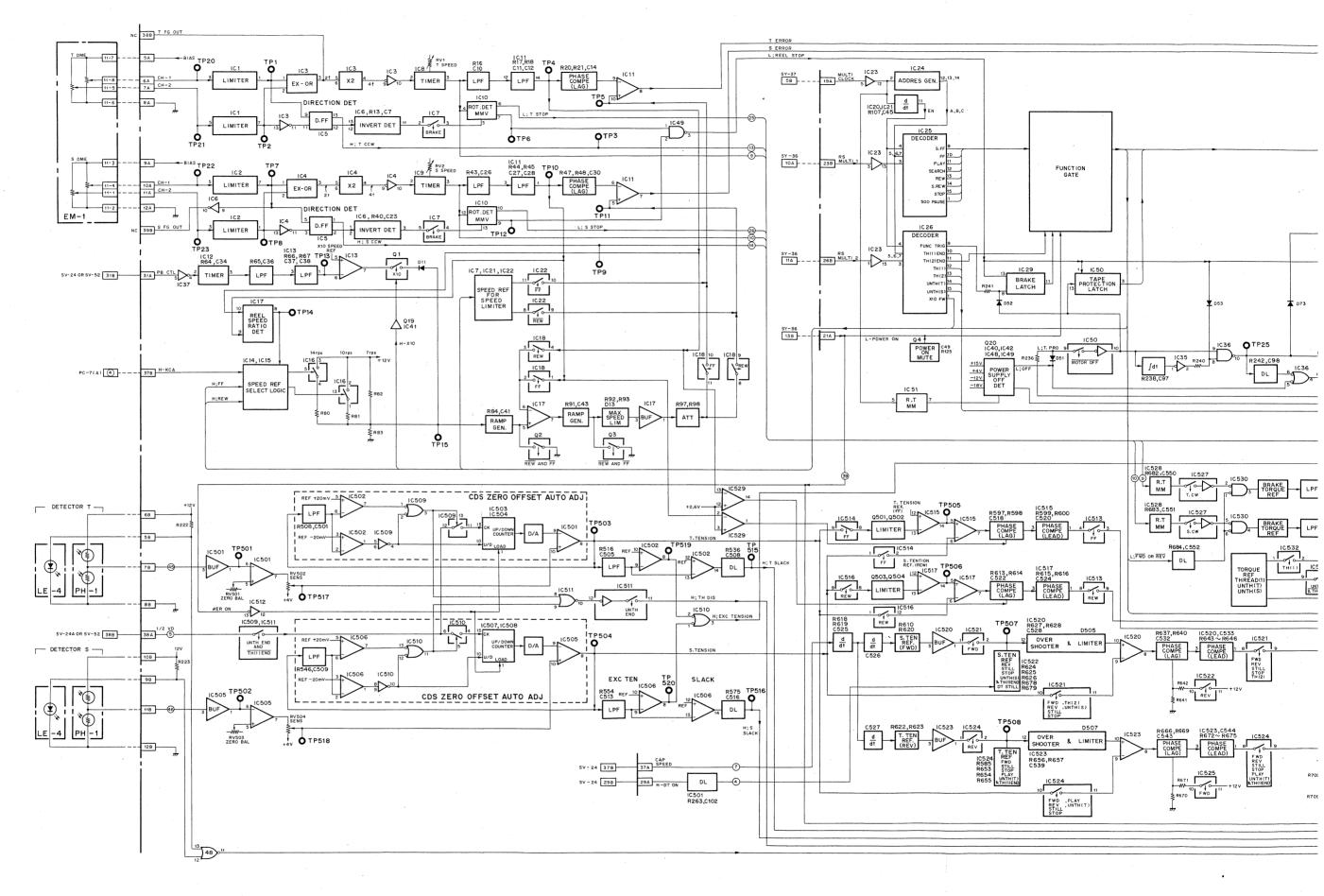


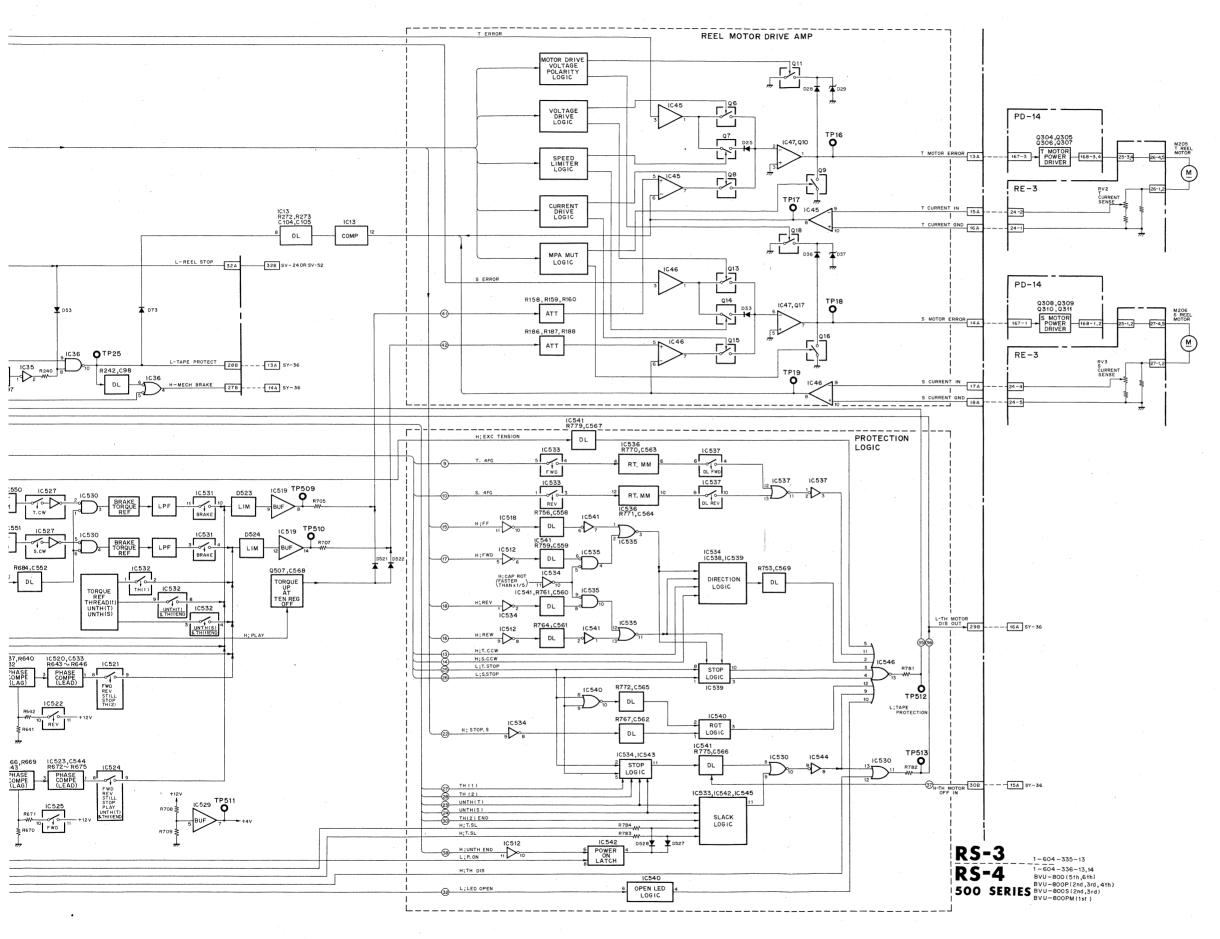
DRUM SERVO CAPSTAN SERVO





RLEL SERVO
TAPE TENSION SERVO



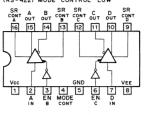


SECTION 16 SEMICONDUCTOR ELECTRODES

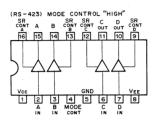
TYPE			INTERCHANGEABILITY											
AM26LS30PC AM26LS31PC AM26LS32PC						16-3								
BX343						16-4								
BX350					-									
BX373	BX373A													
BX375														
BX388				-										
BX389 BX3914			•.											
BX3915	BX3915A													
CD4001BE	TC4001BP	HD14001BP	μ PD4001C	MB84001B	MC14001BCP									
CD4001BE	TC4009UBP	1151400151	J. 2400.0	20 ,002										
CD4011BE	TC4011BP	HD14011BP	μPD4011C	MB84011B	·									
CD4012BE	TC4012BP													
CD4013BE	TC4013BP		μPD4013C	MB84013B		16-5								
CD4015BE	TC4015BP			·										
CD4020BE	TC4020BP	* .	DD40000											
CD4023BE CD4025BE	TC4023BP TC4025BP		μ PD4023C											
CD4025BE CD4027BE	TC4025BP		μ PD4027C	MB84027B										
CD4027BE CD4030BE	TC4030BP		J. 5-10270											
CD4043BE	TC4043BP													
CD4052BE	TC4052BP					16-6								
CD4053BE	TC4053BP			MB84053B										
CD4066BE	TC4066BP	HD14066BP												
CD4068BE	TC4068BP													
CD4069UBE	TC4069UBP	HD14069UBP	μPD4069C	MB84069B										
CD4071BE	TC4071BP													
CD4072BE CD4073BE	TC4072BP TC4073BP		•											
CD4075BE	TC4075BP					-								
CD4077BE	-			MB84077B	MC14077BCP	16-7								
CD4078BE	TC4078BP		μPD4078C											
CD4081BE	TC4081BP	HD14081BP	μPD4081C	MB84081B										
CD4082BE	TC4082BP			·										
CD4085BE	TC4085BP													
CD4093BE	TC4093BP]									
CD4099BE	TC4099BP TC40161BP													
CD40161BE	104010107					16-8								
CX130					1									
CX131A						-								
CX133A CX134A														
CX134A CX135														
CX170		-			1									
CX188														
CX756A														
CX757														
CX859						16-9								
CX872														
HA1807														
LB1264						-								
	NJM2902N	HA17902P	μ PC324C	1										
LM324														
LM324 LM339			μ PC339C											

TYPE			INTERCHANGEABILI	тү		PAGE
M54519P M54529P						16-10
MB8532						
MC14510BCP MC14512BCP MC14516BCP	TC4510BP TC4512BP TC4516BP		μPD4512C μPD4516C			
MC14519BCP MC14528BCP MC14538BCP MC14539BCP MC14584BCP MC14598BCP	TC4539BP	HD14538BP	μPD4519C μPD4539C			16-11
NE555N	M51841P			:		16-12
NJM2903D NJM4562D						·
RC4558	μ PC4558C	NJM4558D	μ PC1458C			
SN74LS05N SN7407N SN74LS32N						
SN74LS32N SN74LS74AN SN16913P SN74LS138N SN74LS139N						
SN74LS156N SN74LS156N SN74LS158N SN74LS244N SN74LS377N SN74LS378N SN74LS379N						16-13
TA7060AP TA7069P TA7076P TA7617AP					•	16-14
TC5067BP TC40H074P TC40H368P		·				
TL082CP	·					-
µА78□□UC µА79□□UC µРА54Н µРА64Н	μPC143□□H	μРС78□□Н	: 			
μPA76V-FA						16-16
μPC311C μPD444C						16-15

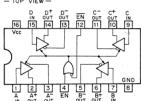
AM26LS3OPC (ADVANCED MICRO DEVICE) DIFFERENTIAL RS-422 PARTY LINE/SINGLE ENDED RS-423 LINE DRIVER (RS-422) MODE CONTROL "LOW"



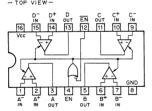
SR CONT: SLEW RATE



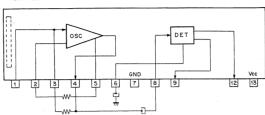
AM26LS31PC (ADVANCED MICRO DEVICE) HIGH SPEED DIFFERENTIAL LINE DRIVER — TOP VIEW—



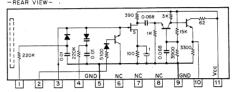
AM26LS32PC (ADVANCED MICRO DEVICE) HIGH SPEED DIFFERENTIAL LINE RECEIVER — TOP VIEW—



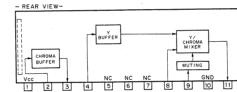
BX343 (SONY) OSCILLATOR/DETECTOR



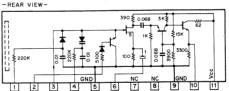
BX350 (SONY) VIDEO HEAD AMP/MUTING -REAR VIEW- .



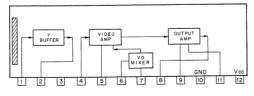
BX373 (SONY) BX373A (SONY) MIX AMP



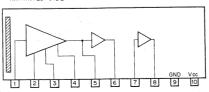
BX375 (SONY) VIDEO HEAD AMP/MUTING -REAR VIEW-



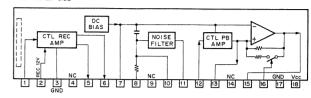
BX388 (SONY) VIDEO AMP/ VD MIXER -IMPRINTED SIDE-



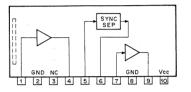
BX389(SONY) VIDEO AMPLIFIER
- IMPRINTED SIDE -



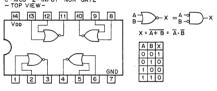
BX3914 (SONY) CTL REC / PB AMPLIFIER - IMPRINTED SIDE -



-IMPRINTED SIDE-

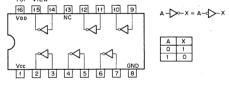


CD4001AE/BE (RCA)
TC4001BP (TOSHIBA)
HD14001BP (HITACHI)
MB84001B (FUJITSU)
µPD4001C (NEC)
MC14001BCP (MOTOROLA)
C-MCS 2-INPUT NOR GATE
- TOP VIEW-

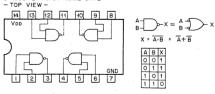


CD4009UBE (RCA)
TC4009UBP (T0SHIBA)
C-MOS INVERTING TYPE BUFFER/CONVERTER
(T0 TTL LEVEL)
TOP VIEW —

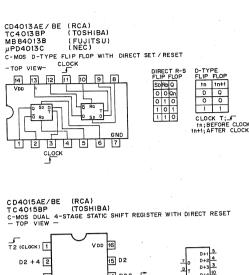
[6] [5] [4] [13] [2] [11 [10] 9]

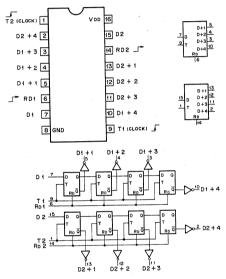


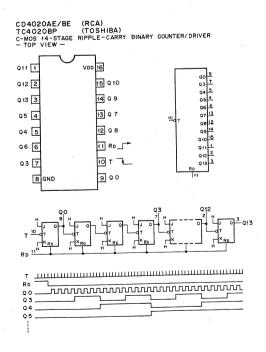
CD4011AE/BE (RCA)
TC4011BP (TOSHIBA)
HD1401BP (HITACHI)
MBB4011B (FUJITSU)
p/PD4011C (NEC)
C-MOS 2-INPUT NAND GATE
- TOP VIEW -

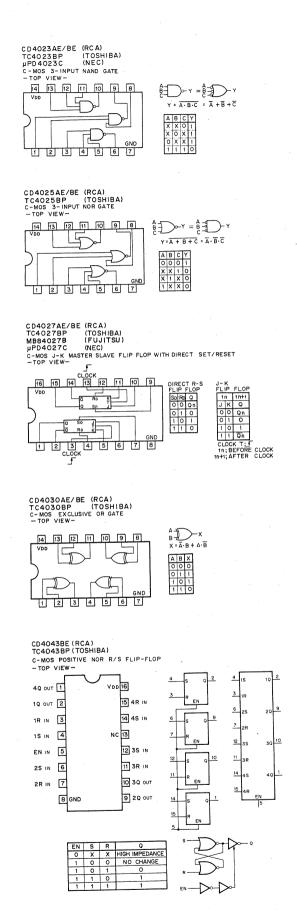


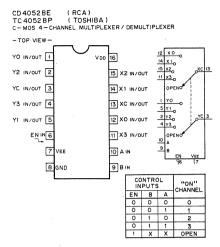
CD4012AE/BE (RCA) TC4012BP (TOSHIBA) C-MOS 4-INPUT NAND GATE -TOP VIEW-\$ - Y = \$ - Y $Y = \overline{A \cdot B \cdot C \cdot D}$ $= \overline{A} + \overline{B} + \overline{C} + \overline{D}$ NC GND

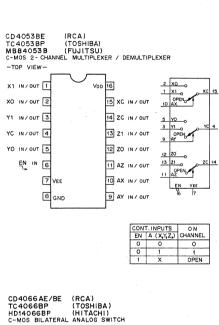


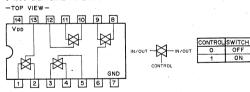


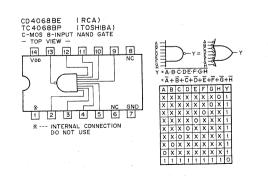


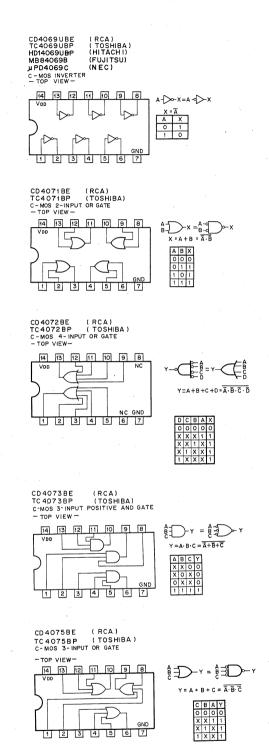




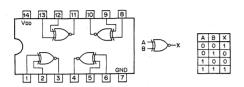


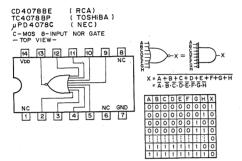


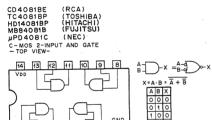


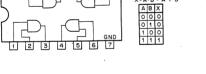


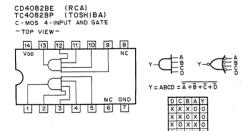


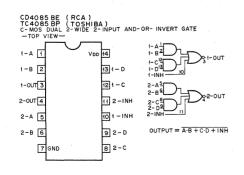


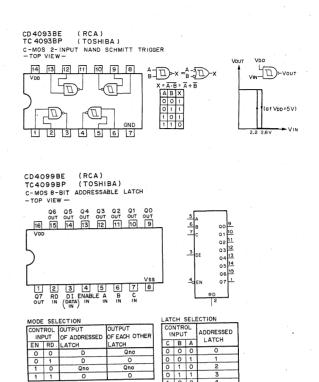




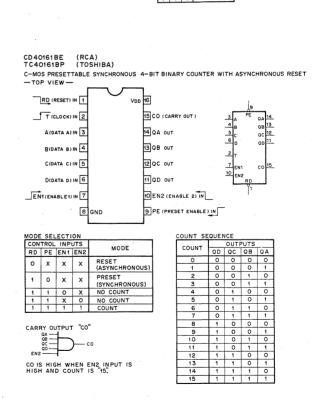


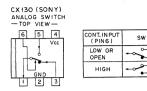


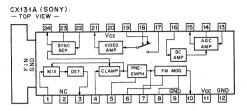


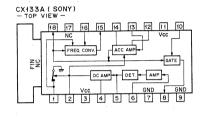


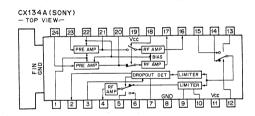
Ono : HOLDS PREVIOUS DATA

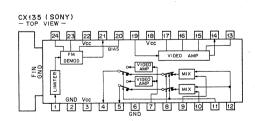


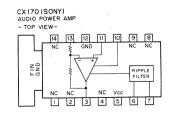


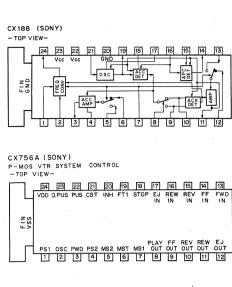


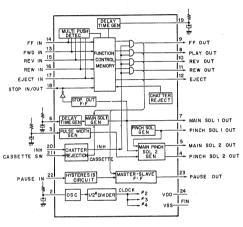


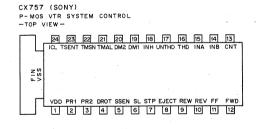


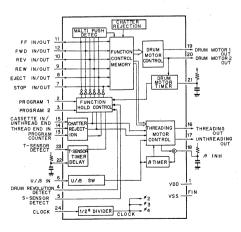




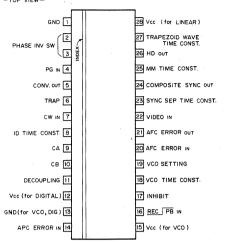


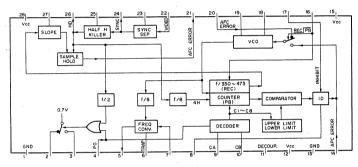










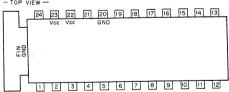


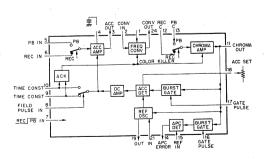
DECODER TRUTH TABLE										
CA	LOW	OPEN	HIGH							
LOW	C 1	C7	_							
OPEN	C 4	C 5	C 6							
HIGH	_	*C2	CB							
		PG : L								

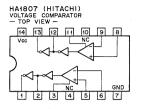
.

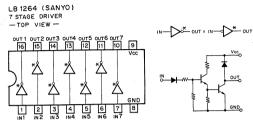
AFC/A	PRESET DATA		
	AFE COUNT COUNT	APC I	D COUNT
	AFC COUNT DOWN	UPPER LIM.	LOWER LIM.
C 1	f / 473	105	95
C2	f/351	129	119
С3	f/353	137	127
C4	f/351	118	104
C5	f/351	131	117
C6	f/351	144	130
C7	f/350	136	104
СВ		125	115

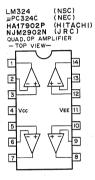




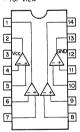


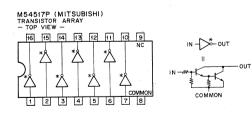


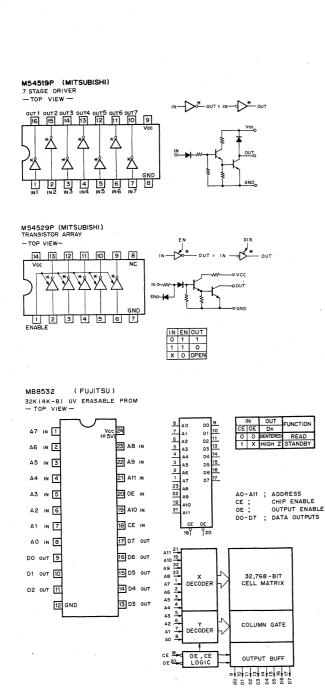




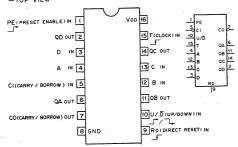
LM339 (NSC) µPC339C (NEC) COMPARATOR —TOP VIEW—







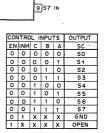
MC14510BCP (MOTOROLA)
TC4510BP (TOSHIBA)
C-MOS PRESETTABLE BCD UP/ DOWN COUNTOR
-TOP VIEW-



1		- 1	NPUT	S		OUTPUTS				COUNT	•	OUTF	PUTS			
ı	т	RD	PE	CI	U/D	QD	QC	QB	QA		COUNT	QD	QC	QB	QA	
	×	1	X	X	X	0	0	0	0		0	0	0	0	0	♦
	X	0	1	×	X	SET	тс	Α,	3,C,D	l	1	0	0	0	1	
	-	0	0	0	1	COL	INT	UP		1	2	0	0	1	0	l ż
	-	0	0	0	0	COL	INT	DOV	VN	1	3	0	0	1	1	d d
٠	0	0	0	X	X	NO	CHA	ANGE		1	4	0	1	0	0	20
	X	0	0	1	X	NO	CHA	ANGE		1	5	0	1	0	1	· ララ
					-					•	6	0	1	1	0	COUNT
											7	0	1	1	1	၂ဝဝ
											8	1	0	0	0	
	CO=1	CI=L & (DOWN COUNT O'OR UP COUNT "9")									9	1	0	0	1	J ♦ [
	01		.,													

MC14512BCP(MOTOROLA)
TC4512BP (TOSHIBA)
µP04512C (NEC)
C-MOS 8-CHANNEL DATA SELECTOR/MULTIPLEXER
-TOP VIEW-16 15 ENABLE IN 2 S1 3 S2 0 4 S3 0 5 S4 0 6 S5 0 7 S6 0 S1 IN 2 S2 IN 3 14 SC OUT 13 C IN 53 IN 4 \$4 IN 5 12 B IN OPEN O

11 A IN 10 INHIBIT IN



OPEN

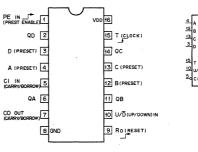
O;LOW LEVEL 1;HIGH LEVEL X;LOW OR HIGH

S5 IN 6

S6 IN 7

8

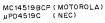
MC14516BCP (MOTOROLA)
TC4516BP (TOSHIBA)
µPD4518C (NEC)
C-MOS PRESETTABLE BINARY UP/DOWN COUNTER
- TOP VIEW -

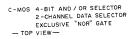


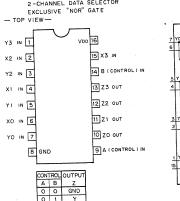
	- 11	NPUT	S			OUT		:
Т	RD	PE	CI	U/D	QD	QC	QB	QA
X	1	X	X	X	0	0	0	0
×	0	1	X	×	SET	ТО	A,E	,c,D
5	0	0	- 0	1	COL	JNT	UP	
_5	0	0	0	0	COL	JNT	DO'	WN
0	0	0	X	X	NO	CH	ANG	E
X	0	0	1	×	NO	СН	ANG	E

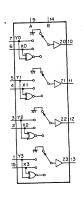
CO=L CI=L &(DOWN.COUNT "O" OR UP.COUNT "15")

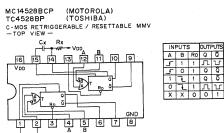
COUNT	-	DUTE	UTS		
COUNT	QD	QC	QB	QA	
0	0	0	0	0	1
1	0	0	0	1	
2	0	0	1	0	
3	0	0	1	1	
4 5	0	1	0	0	
5	0	1	0	1	Ż
6	0	1	1	0	UP DOWN
7	0	1	1	1	
8	1	0	0	0	COUNT
9	1	0	0	1	55
10	1	0	1	0	88
11	1	0	1	1	
12	1	1	0	0	
13	1	1	0.	1	
14	1	1	1	0	
15	1	1	1	1	₩





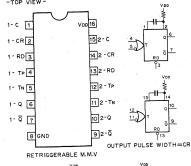


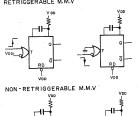


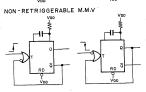


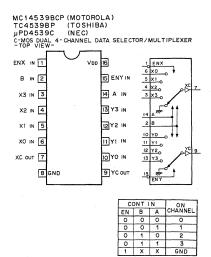
 $\begin{cases} \text{OUTPUT PULSE WIDTH Q OR } \overline{Q} \\ \bullet (\text{FOR } C_X \geqq 0.01 \mu\text{F USE FORMULA}) \\ \text{PW} = 0.2 \cdot \text{Rx} \cdot \text{Cx} \cdot \text{Ln} (\text{Vbo-GND}) \\ \bullet (\text{FOR } C_X < 0.01 \mu\text{F USE DATA BOOK.}) \end{cases}$

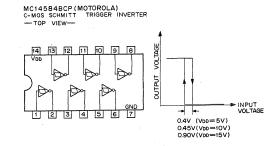
MC14538BCP (MOTOROLA) HD14538BP (HITACHI) C-MOS DUAL RETRIGGERABLE/NON-RETRIGGERABLE MONOSTABLE MULTIVIBRATOR

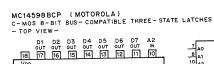


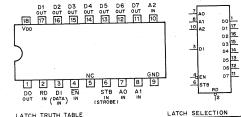




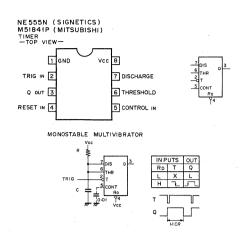








OUT	IN	(DATA) IN (STROB	E)					2
ATC	H TR	UTH	TABLE	LATCH SELECTION			ECTION		
CONTROL OUTPUT			OUTPUT OF ADDRESSED	OUTPUT OF OTHER			IPU		ADDRESSED LATCH
EN	STB	RD	LATCH	LATCHES		A2	Α1	ΑO	EATON
1	0	1	NO CHANGE	NO CHANGE		0	O	0	0
1	1	1	DATA	NO CHANGE		0	0	1	1
+	×	ò	0	0	1	0	1	0	2
0	X	x	OPEN	OPEN	1	0	1	1	3
ٽ					•	1	0	0	4
						1	0	1	5
						1	1	0	6
						1	1	1	7
						•	•		



NJM2903D (JRC)
OPERATIONAL AMPLIFIER
-TOP VIEW-



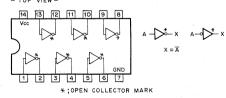
RC4558 (RAYTHEON) µPC4558C(NEC) NJM4558D(JRC) NJC1458C(NEC) OPERATIONAL AMPLIFIER -TOP VIEW-



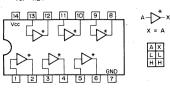
NJM4562D (JRC)
OPERATIONAL AMPLIFIER



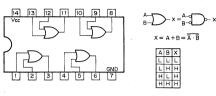
SN74LS05N (TI) SN7405N (TI)
TTL INVERTER WITH OPEN COLLECTOR
- TOP VIEW-



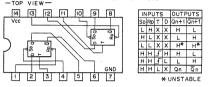
SN7407N (TI)
TTL BUFFER / DRIVER
WITH OPEN - COLLECTOR
--- TOP VIEW ---

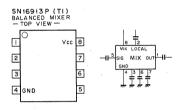


SN74LS32N(TI)
TTL 2-INPUT POSITIVE - OR GATE
- TOP VIEW -

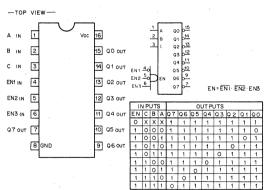


SN74LS74AN (TI)
TTL D-TYPE FLIP FLOP WITH DIRECT SET/RESET
--TOP VIEW---

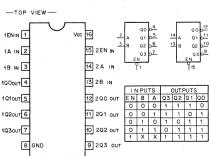




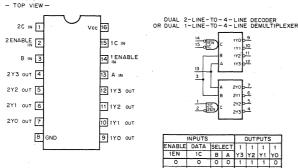
SN74LS138N (TI)
TTL 3-T0-8-LINE DECODER/DEMULTIPLEXER



SN74LS139N (TI)
TTL 2-TO-4-LINE DECODER/DEMULTIPLXER





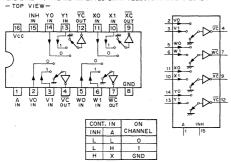


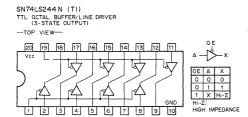
	INPUIS			, ,	OUT	PUIS	S .
ENABLE	DATA	SEL	ECT	1	1	1	1
1EN	1C	В	Α	Υ3	Y2	Y1	YO
0	0	0	0	1	1	1	0
0	0	0	1	1	1	0	1
0	0	1	0	1	0	1	1
0	0	1	1	0	1	1	1
Х	1	X	X	1	1	1	1
1	X	X	Х	1	1	1	1
	NPUTS				TUC	PUTS	3
ENABLE	DATA	SEL	ECT	2	2	2	2
2EN	2 C	В	Α	Y3	Y2	YI	YO
0	1	0	0	1	1	1	0
0	1	0	1	1	1	0	1
0	1	1	0	1.	0	1	1
0	1	1	1	0	-	1	•

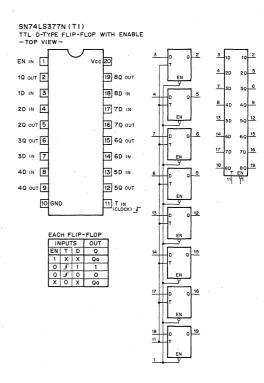
3-LINE-TO-8-LINE DECODER
OR 1-LINE-TO-8-LINE DEMULTIPLEXER

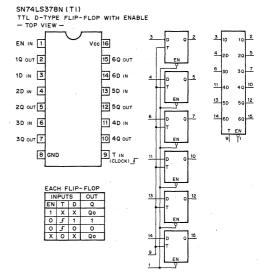
Г		INP	UTS			_		_
13	100	ENABLE/DATA	S	ELEC	CT			Г
31"	Y1 0-10	EN	С	В	Α	Y7	Y6	Y
1 8	Y2 D-11 Y3 D-12	0	0	0	0	1	1	
15 C	74 0 7	0	0	0	1	1	1	Г
2	Y5 0 6	0	0	1	0	1	1	Г
TEN	- 5	0	0	1	1	1	1	
14	Y6 0-4	0	1	0	0	1	1	Г
L	.,,	0	1	0	1	1	1	1
		0	1	1	0	1	0	
		0	1	- 1	1	0	1	Г
		1	V	V	V	1	1	$\overline{}$

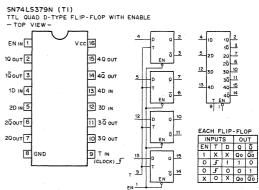
SN74LS158N (TI)
TTL 2-LINE-TO-1-LINE INVERTED DATA SELECTOR/MULTIPLEXER
- TOP VIEW-







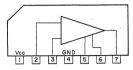




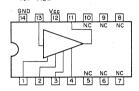
TA7060AP (TOSHIBA) TA7060P (TOSHIBA) LINEAR AMP - SIDE VIEW -



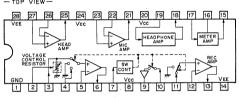
TA7069P(TOSHIBA) VIDEO AMPLIFIER — SIDE VIEW —



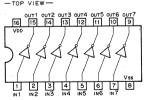
TA7076P(TOSHIBA) VIDEO LINEAR AMP -- TOP VIEW---

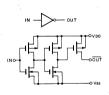


TA7617AP (TOSHIBA) AUDIO AMPLIFIER FOR TAPE DECK -- TOP VIEW--



TC5067BP (TOSHIBA)
C-MOS HIGH VOLTAGE BUFFER/INVERTING TYPE
—TOP VIEW—

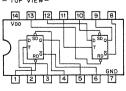


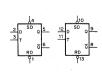


TC40H074P (TOSHIBA)

C-MOS HIGH SPEED D-TYPE FLIP-FLOP WITH DERECT SET/RESET - TOP VIEW-







tn tn + 1 D Q Q

TC40H368P(TOSHIBA)

C-MOS INVERTING 3-STATE BUFFER — TOP VIEW —

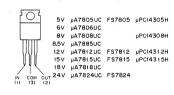
DISABLE 16 15 14 13 12 11 10 9 [Do 1 2 3 4 5 6 7 DISABLE

TLO82CP (TI)
OPERATIONAL AMPLIFIER
(JFET-INPUT)
- TOP VIEW-



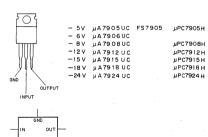
µA78□□UĆ µPC143□□H µPC78□□H (FSC) (NEC) (NEC)

POSITIVE VOLTAGE REGULATOR (IA)

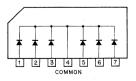




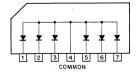
µA79 □□UC (FSC) FS79□□ (SANKEN) NEGATIVE VOLTAGE REGULATOR (IA)

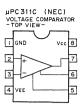


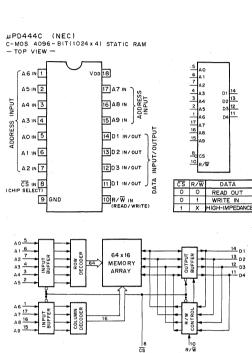
μPA54H (NEC) DIODE ARRAY — SIDE VIEW —

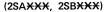


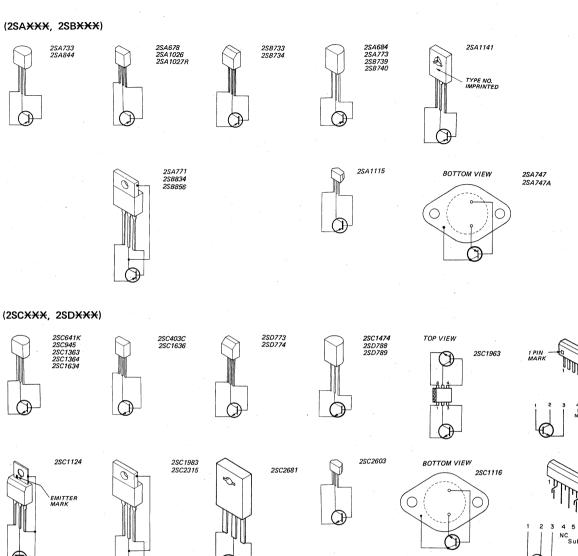
μΡΑ64Η (NEC) DIODE ARRAY — SIDE VIEW —



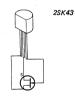








(OTHER)







SPS102

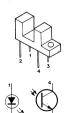






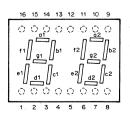
2SC2771

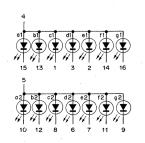
μPA76V



PS4005







LOCATION OF POR

SECTION 17 PRINTED CIRCUIT BOARD AND SCHEMATIC DIAGRAM

17-1. CIRCUIT FUNCTION OF THE PRINTED CIRCUIT BOARD

The circuit board information is provided below.

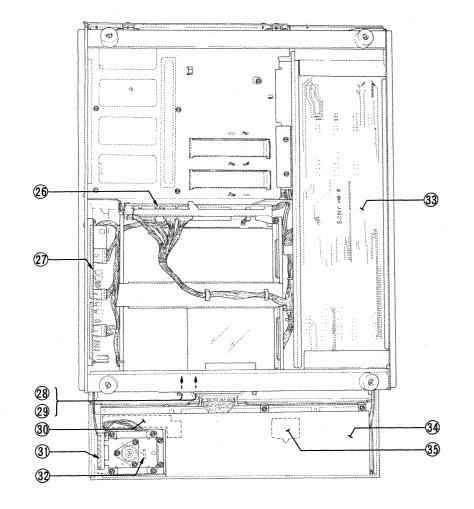
5	System	Circuit board	Circuit function							
		MD-12	 Luminance and chrominance signal modulator. 							
VI	VIDEO	RP-5-1	• REC/PB amplifier • Rotary erase amplifier							
' -		YD-9	• Luminance signal demodulator							
		CD-14	Chrominance signal demodula- tor							
		AU-13	• REC/PB amplifier • Audio system control							
		AU-25	Bias oscillatorCH-1/CH-2 erase oscillator							
Αl	JDIO	SA-9	 Input impedance converter (high ↔ low) 							
		AO-2	Audio monitor switch							
		AO-3	 CH-1/CH-2 output amplifier 							
			 Monitor out selector/output 							
		7.	amplifier							
		HP-5	 Headphones level adj. 							
		SV-24A or SV-52	• Capstan/drum speed and phase servo							
ļ		CF-9	 CTL REC/PB amplifier 							
SE	ERVO	RS-3	• Tape tension detector							
		(RS-4)	Reel motor driver control							
		EM-1	• Reel rotation detector							
		MD-12	Blanking switcher							
		TC-13-1	• Time code REC/PB amplifier							
1	TIME		• Automatic reference sync selector (for servo)							
C	DDE	•	• CTL counter (for display)							
		CV 26	• Function control							
		SY-36 SY-37	• System control micro							
		SY-37A	processor							
		SY-71	• Cassette compartment motor							
			driver							
	-		 Threading motor driver 							
			Skew solenoid driver							
			• Pinch solenoid driver							
-	YSTEM	·	• T brake solenoid driver							
C	CONTROL		• S brake solenoid driver							
			• S tension regulator solenoid driver							
			• Humidity detector							
Ì		KY-9	• Key board with serial data ↔							
		(KY-14)	parallel data converter							
		DP-9	• Display							
		PC-9	Search dial							
	•	PC-14	• Search dial							
		PD-14	• Full erase oscillator							
1		1 1 1 1 7 1 7								
			• 12 V regulator							
De	∩WFÞ	PD-15, PD-17, PD-21, DP-8,	• 12 V regulator • 5 V regulator							
	OWER RIVER	/PD-15, PD-17,\	• 12 V regulator • 5 V regulator • -12 V regulator							
	OWER RIVER	PD-15, PD-17, PD-21, DP-8,	 12 V regulator 5 V regulator -12 V regulator Drum motor power driver 							
		PD-15, PD-17, PD-21, DP-8,	• 12 V regulator • 5 V regulator • -12 V regulator • Drum motor power driver • Capstan motor power driver							
		PD-15, PD-17, PD-21, DP-8,	 12 V regulator 5 V regulator -12 V regulator Drum motor power driver 							
D	RIVER	(PD-15, PD-17, PD-21, DP-8, DP-9	12 V regulator 5 V regulator -12 V regulator Drum motor power driver Capstan motor power driver Reel motor power driver Power supply							
P		(PD-15, PD-17, PD-21, DP-8, DP-9	12 V regulator 5 V regulator -12 V regulator Drum motor power driver Capstan motor power driver Reel motor power driver							

LOCATION OF PCB

< TOP VIEW >

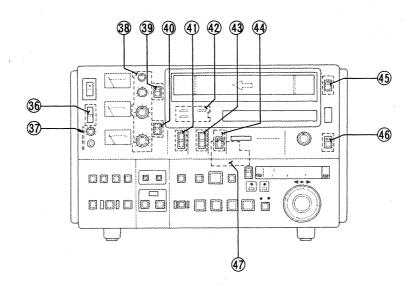
17-2. LOCATION OF THE PRINTED CIRCUIT BOARD

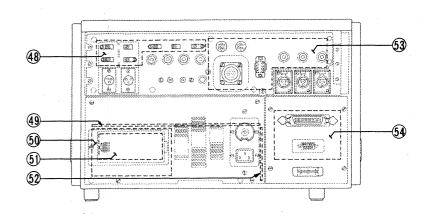
< BOTTOM VIEW >



< FRONT VIEW >







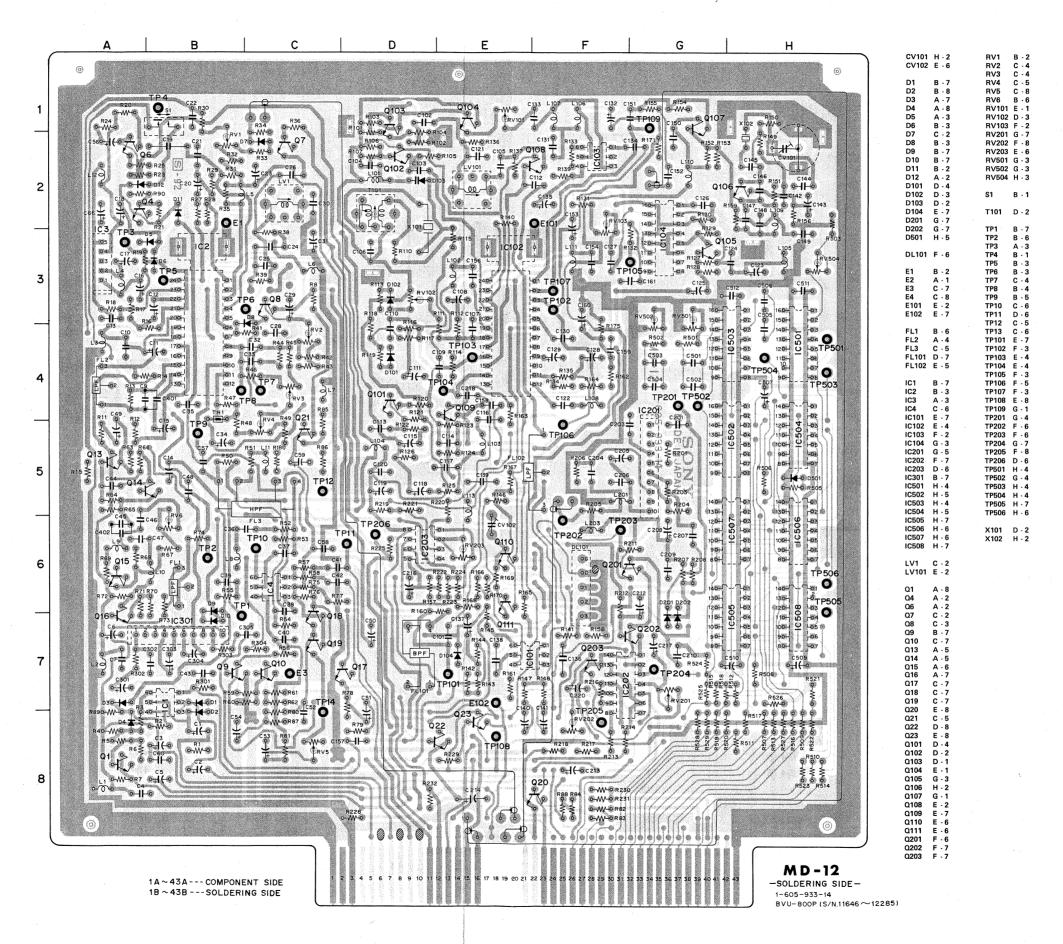
AO-2	36	FU-16
AO-3	53	HP-5
AU-13 (AU-25)	5	KY-9
CC-9	23	KY-14
CC-10	25)	LE-4 (A)
CC-11	24)	LE-4 (B)
CD-14	(2)	LV-1
DP-9	<u>30</u>	MB-8
EK-2(A)	11	MB-9
EK-2(B)	18	MD-12 · · · · · ·
EK-3	(8)	MF-1
EM-1	\simeq	MS-5 (A)

MS-5 (B)
MS-5 (C)
MS-5 (D)
MS-5 (E)
PC-7 (A)
PC-7 (B)
PC-8
PC-9
PC-12
PC-14
PD-14 (PD-15, PD-17, DR-8,
DR-9)

PH-1 (A)		20
PH-1 (B)		19
PR-33		46
PW-50	٠	52
PW-79		50
RE-3	٠.	47
RM-4		54
RP-5-1		15
RS-3 (RS-4)		6
SA-9		48
SR-14	٠.	17
SV-24A or SV-52 (CF-9)		(7)

S	Y-36										28
S	Y-37	/:	37	7Α						•	29
S	Y-71										27
T	C-12										16
											1
T	M-4						٠.				10
											9
											3
٧	VL-1										42)

SER. NO. 11646 to 12285

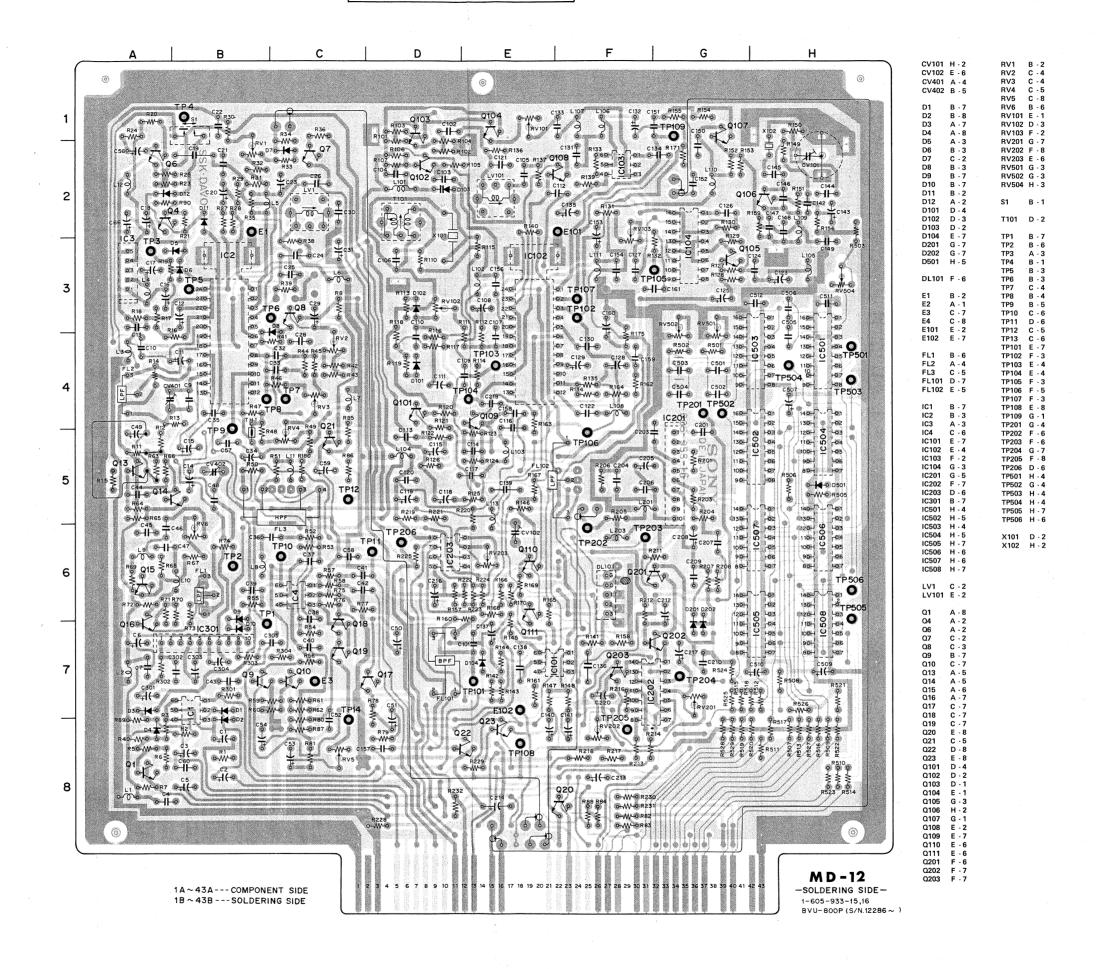


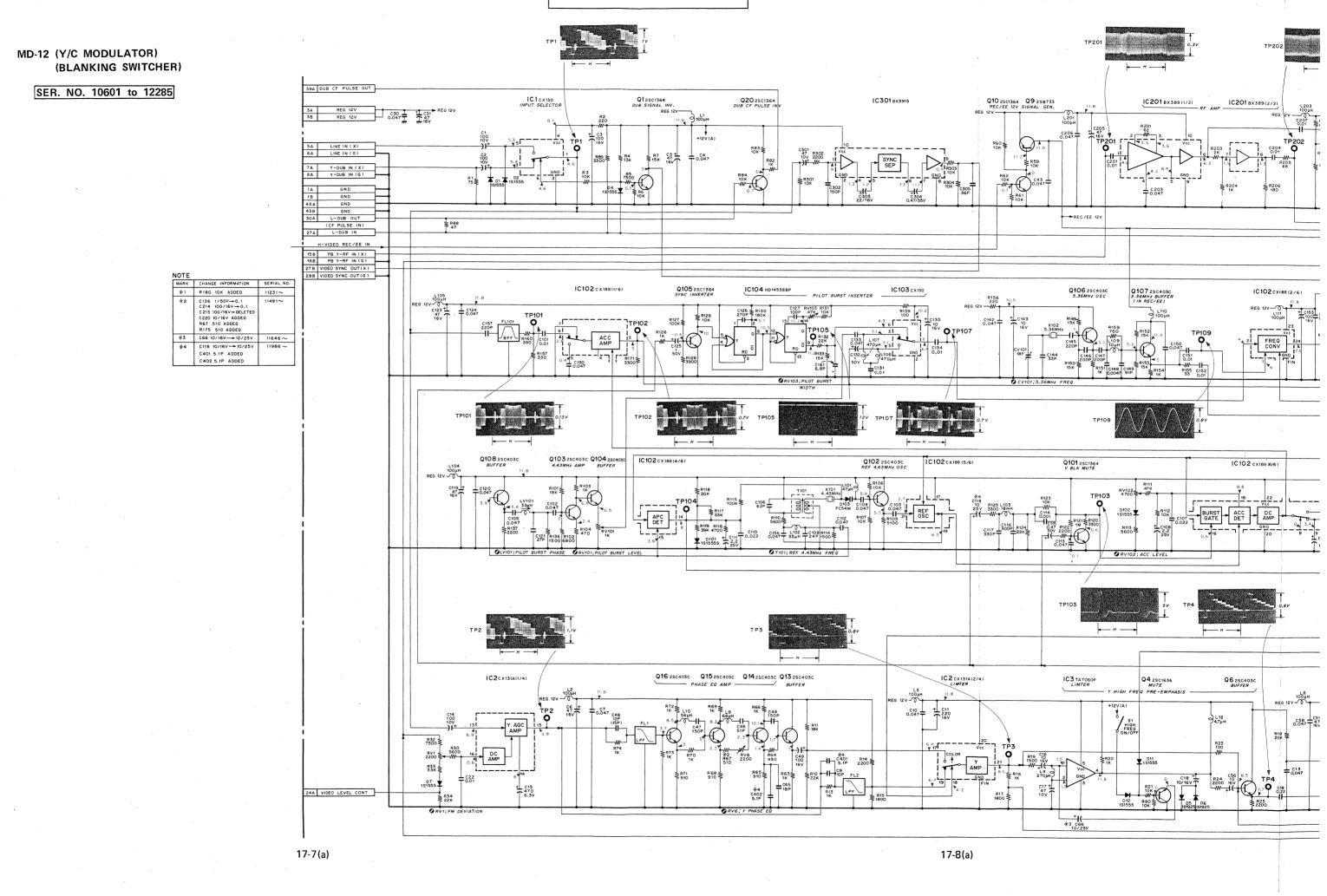
MD-12 (Y/C MO (BLANKI

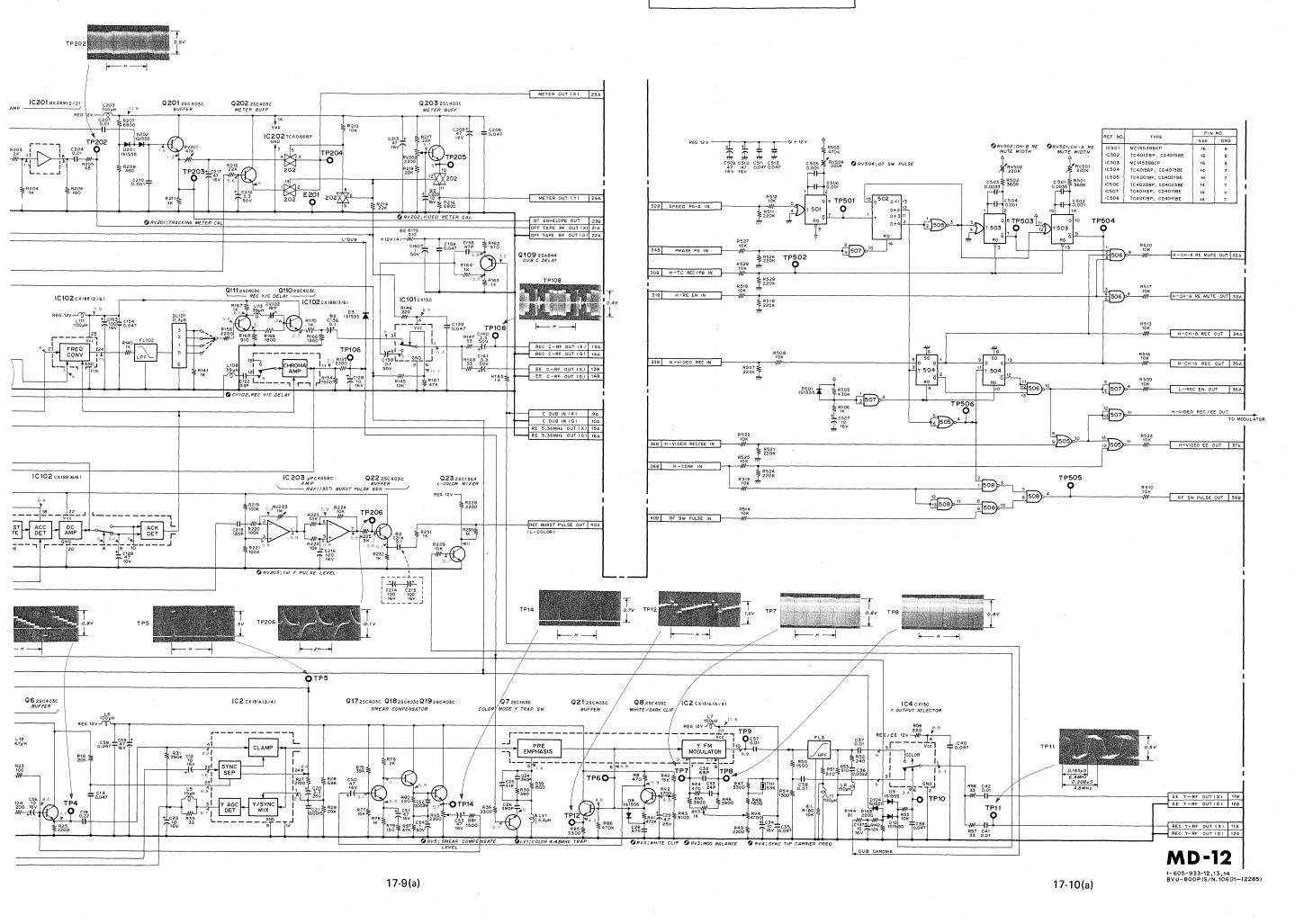
SER. NO. 12

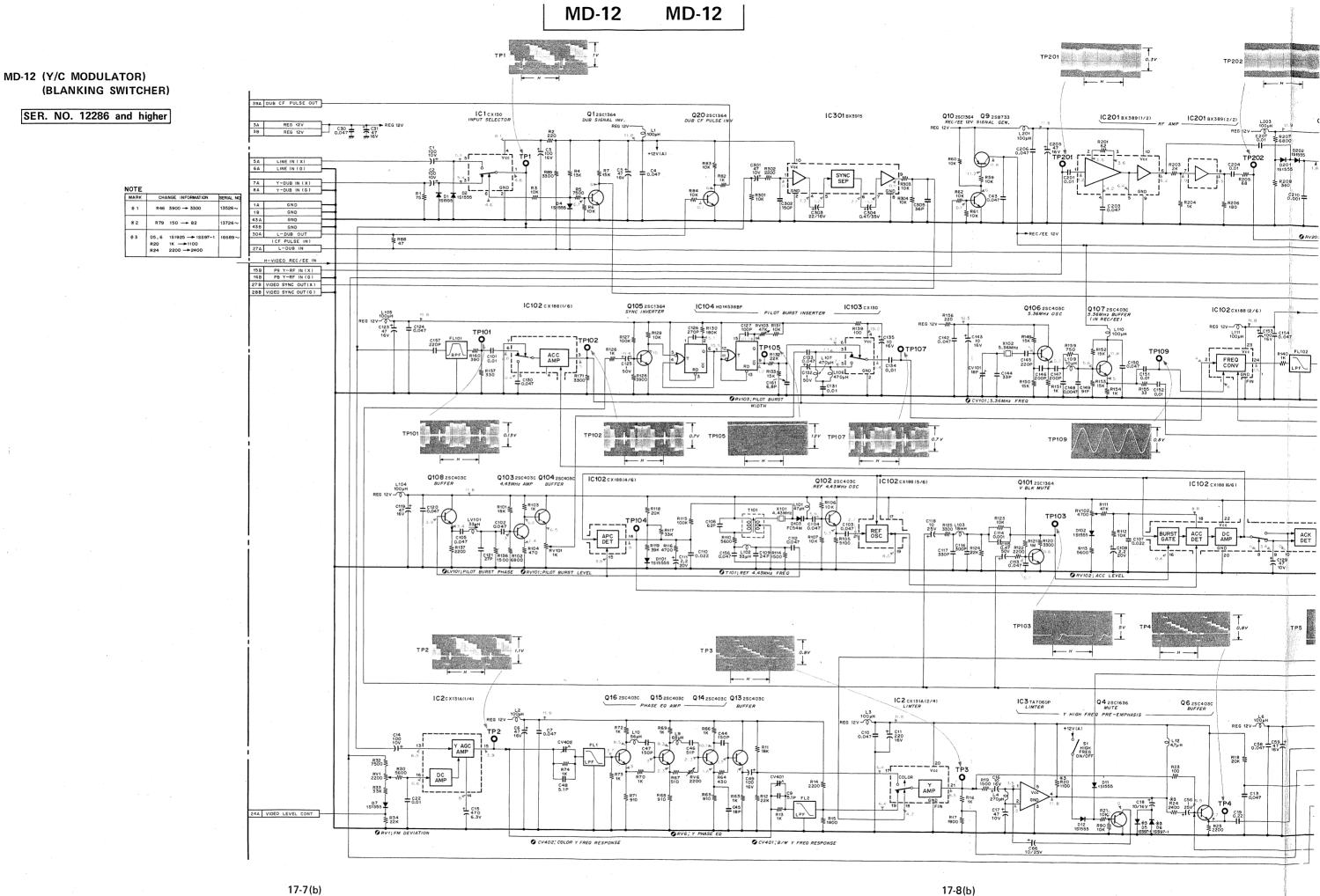
MD-12 (Y/C MODULATOR) (BLANKING SWITCHER)

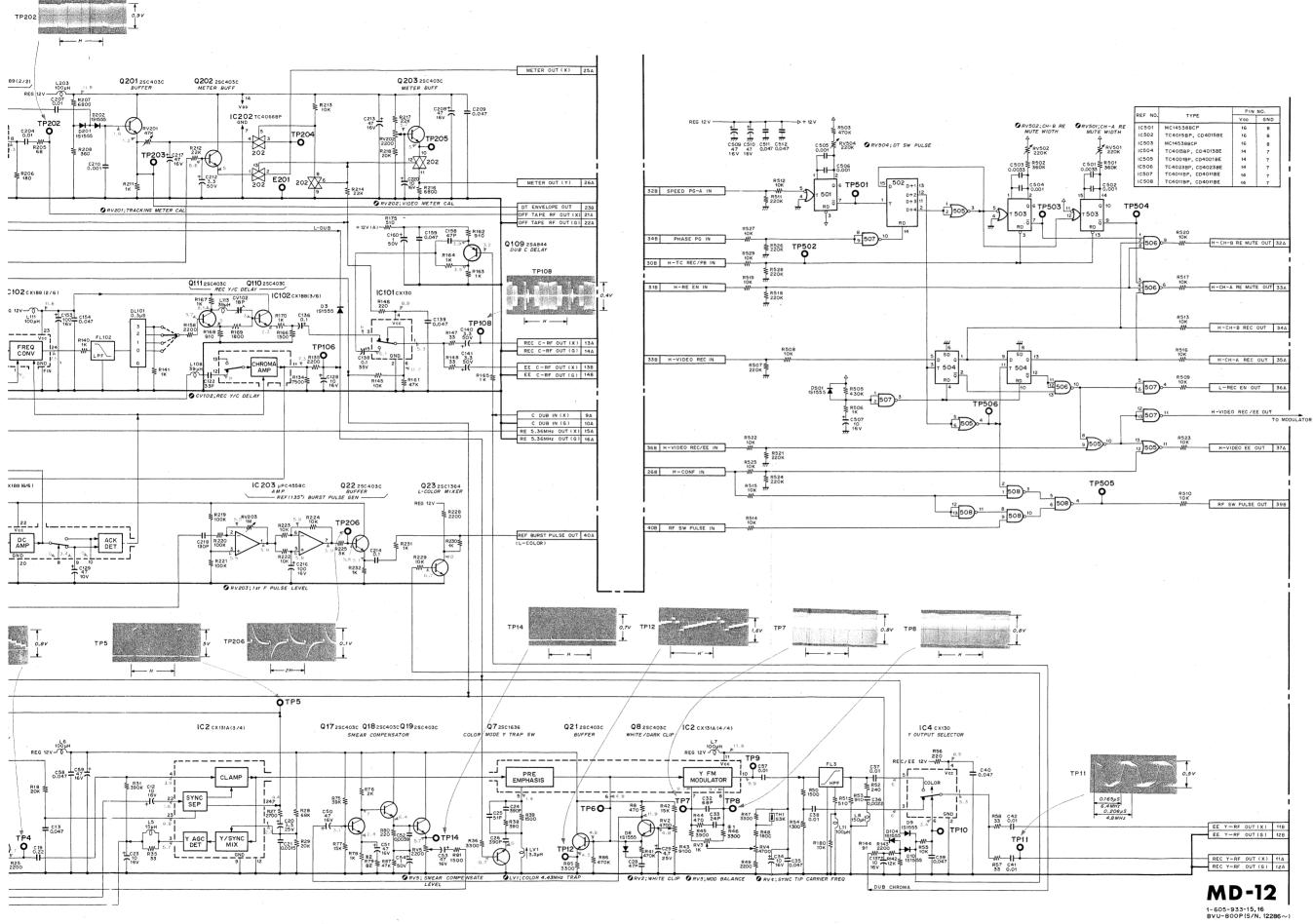
SER. NO. 12286 and higher







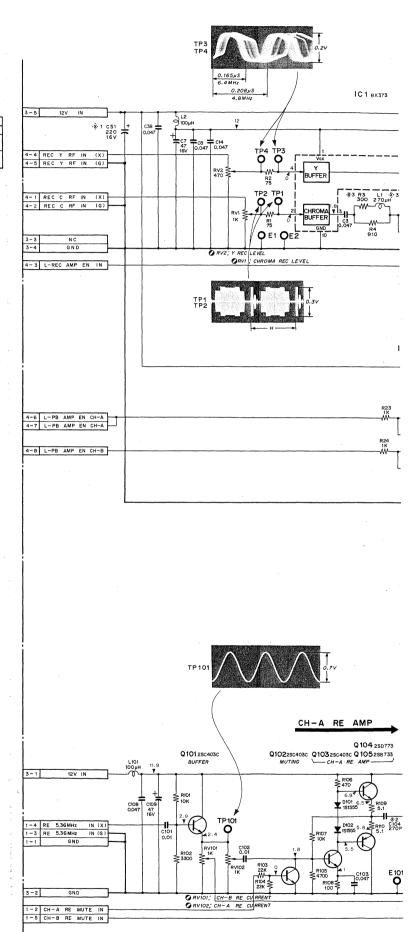


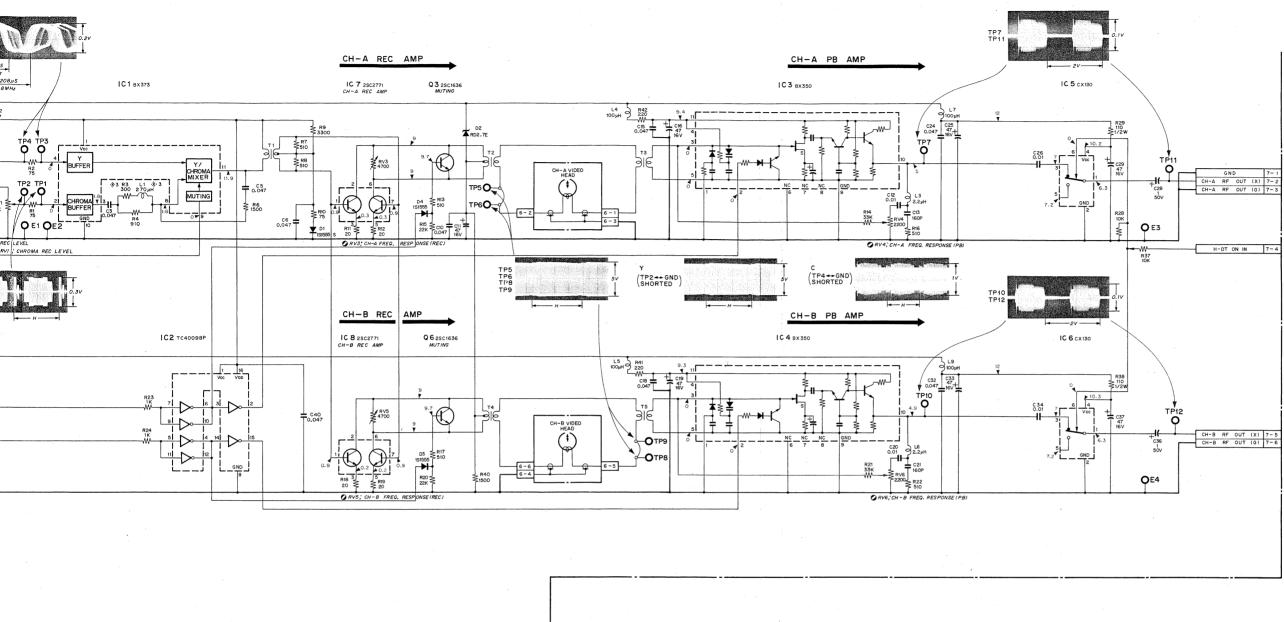


17-10(b)

RP-5-1 (Y/C REC PB AMPLIFIER)
(ROTARY ERASE AMPLIFIER)

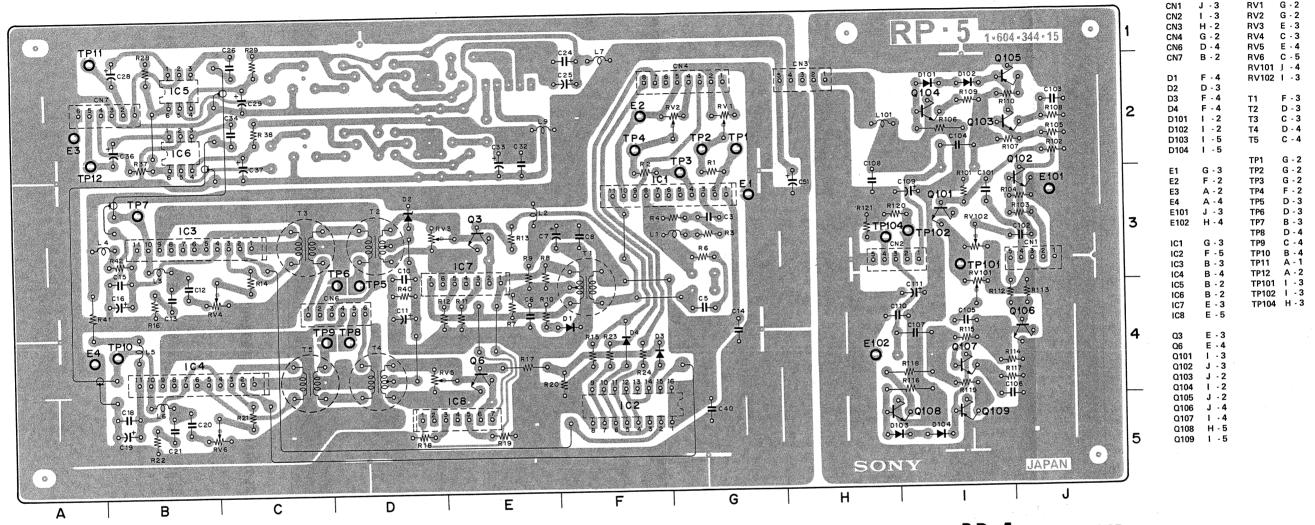
MARK	CHANGE INFORMATION	SERIAL NO.
· * · 1	C51 220µ/16V ADDED	10051~
* 2	C104 240P→270P C107 240P→270P	11491~
·ķ· 3	L1 470µH → 270µH R3 820 → 300	12336~



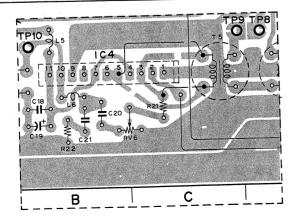


17-13

RP-5-1 (Y/C REC PB AMPLIFIER) (ROTARY ERASE AMPLIFIER)



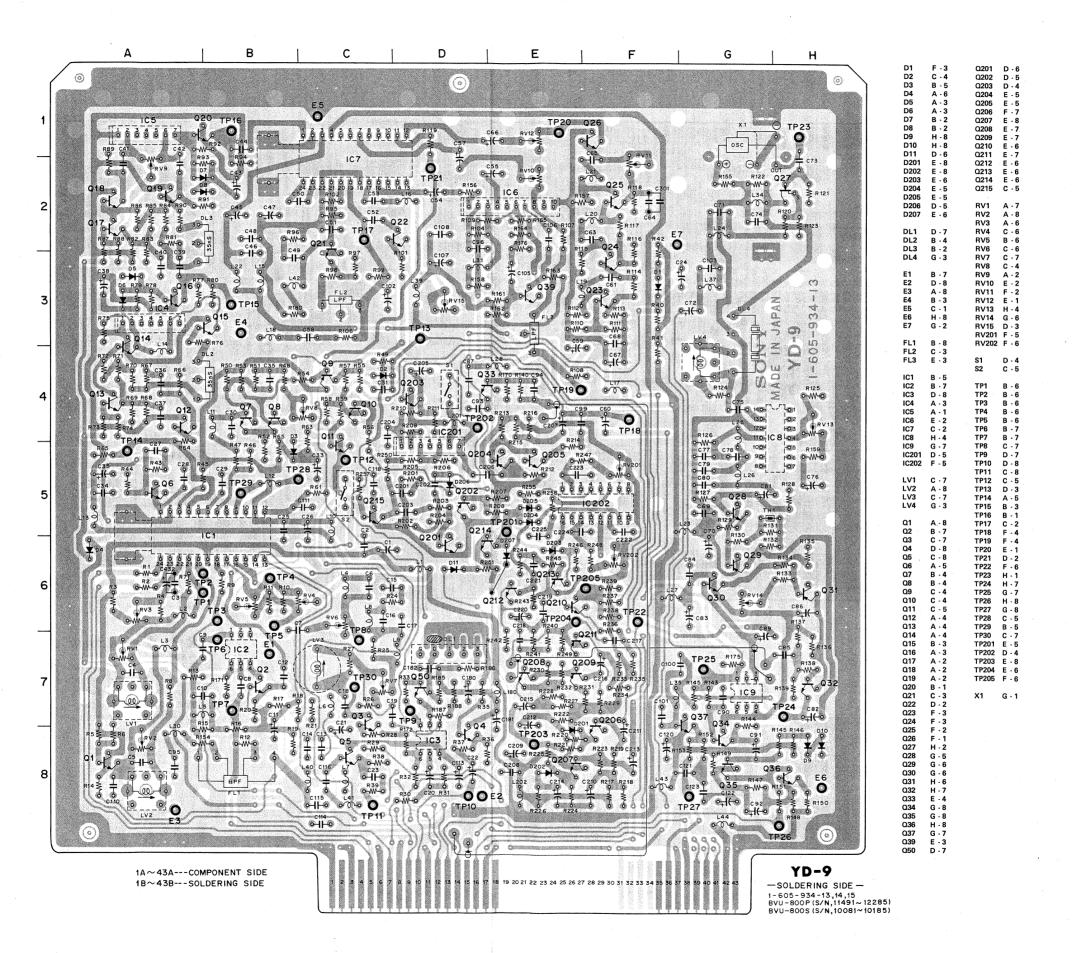
Serial No. 11646 and Higher (PAL) Serial No. 10081 and Higher (SECAM)



RP-5 -SOLDERING SIDE-1-604-344-15

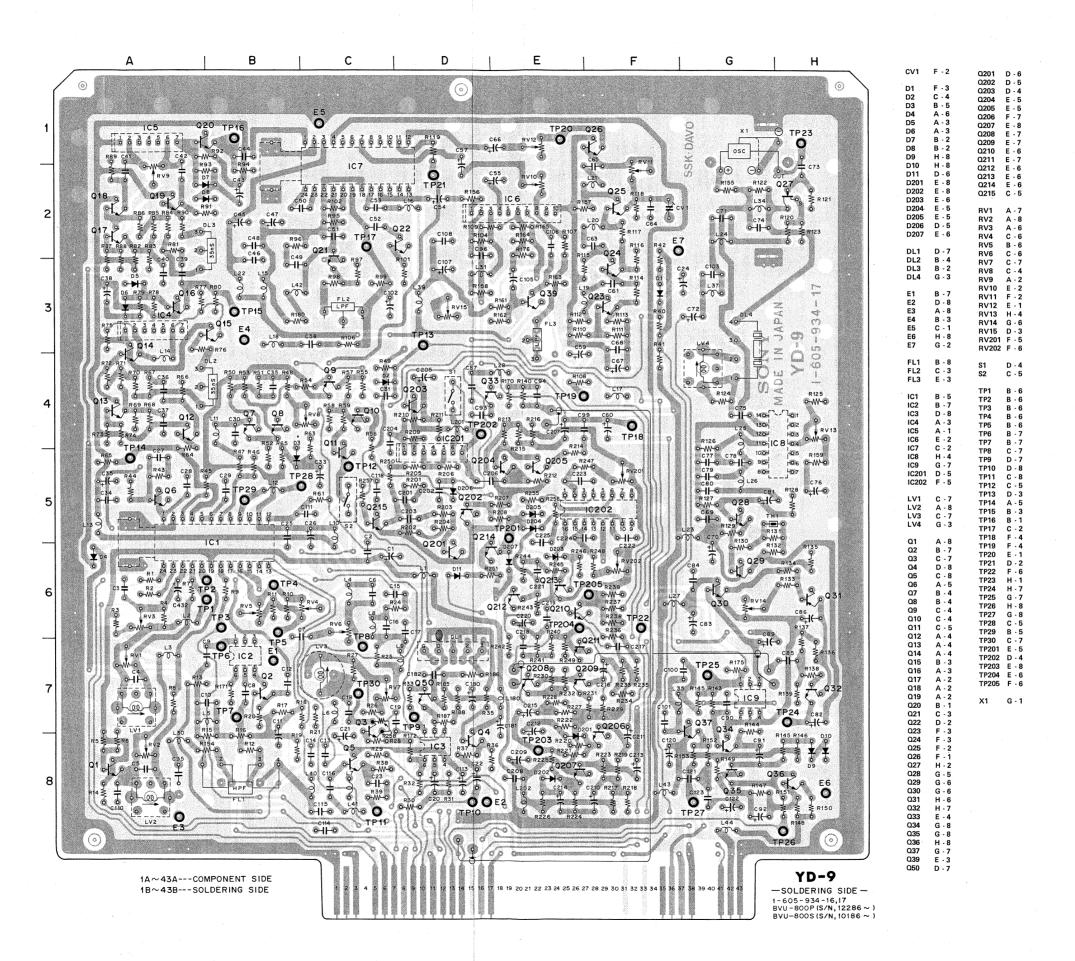
1-604-344-15 BVU-800 (S/N.13751 ~ (U/C)) S/N.10651 ~ (J) BVU-800P (S/N.11491 ~)

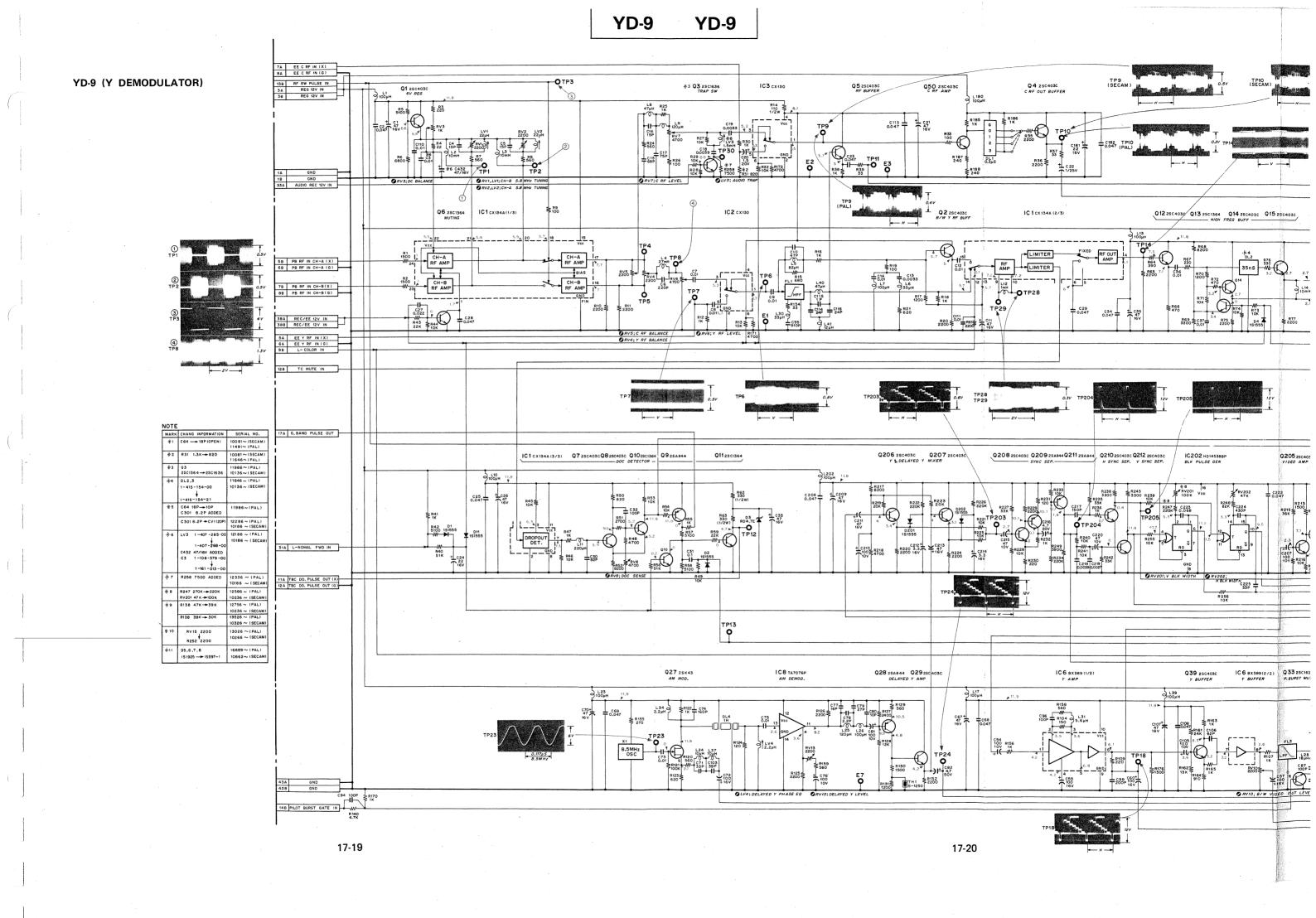
BVU-800S (S/N.10081 ~) BVU-800PM (S/N.10001 ~) SER. No. 11491 to 12285

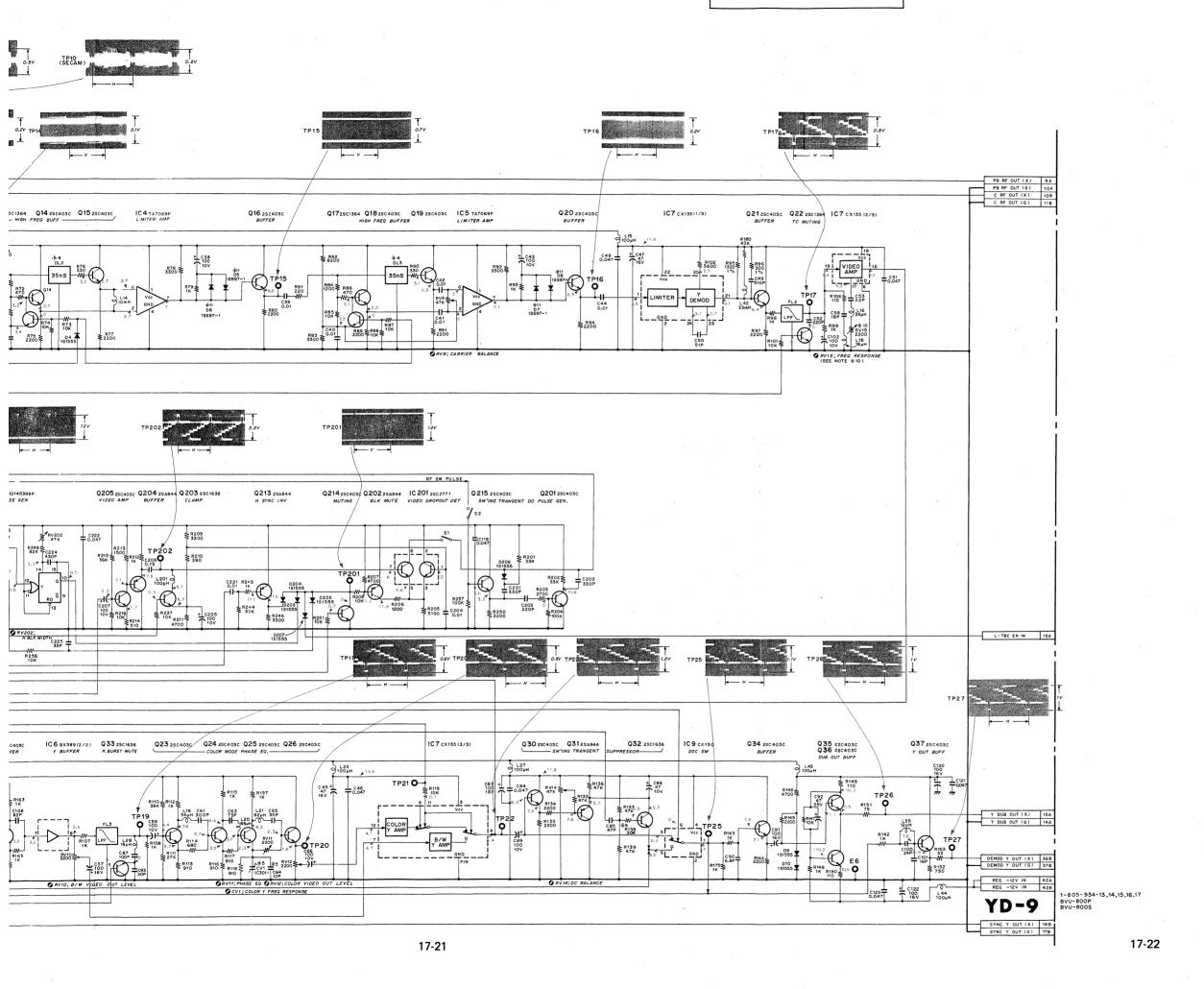


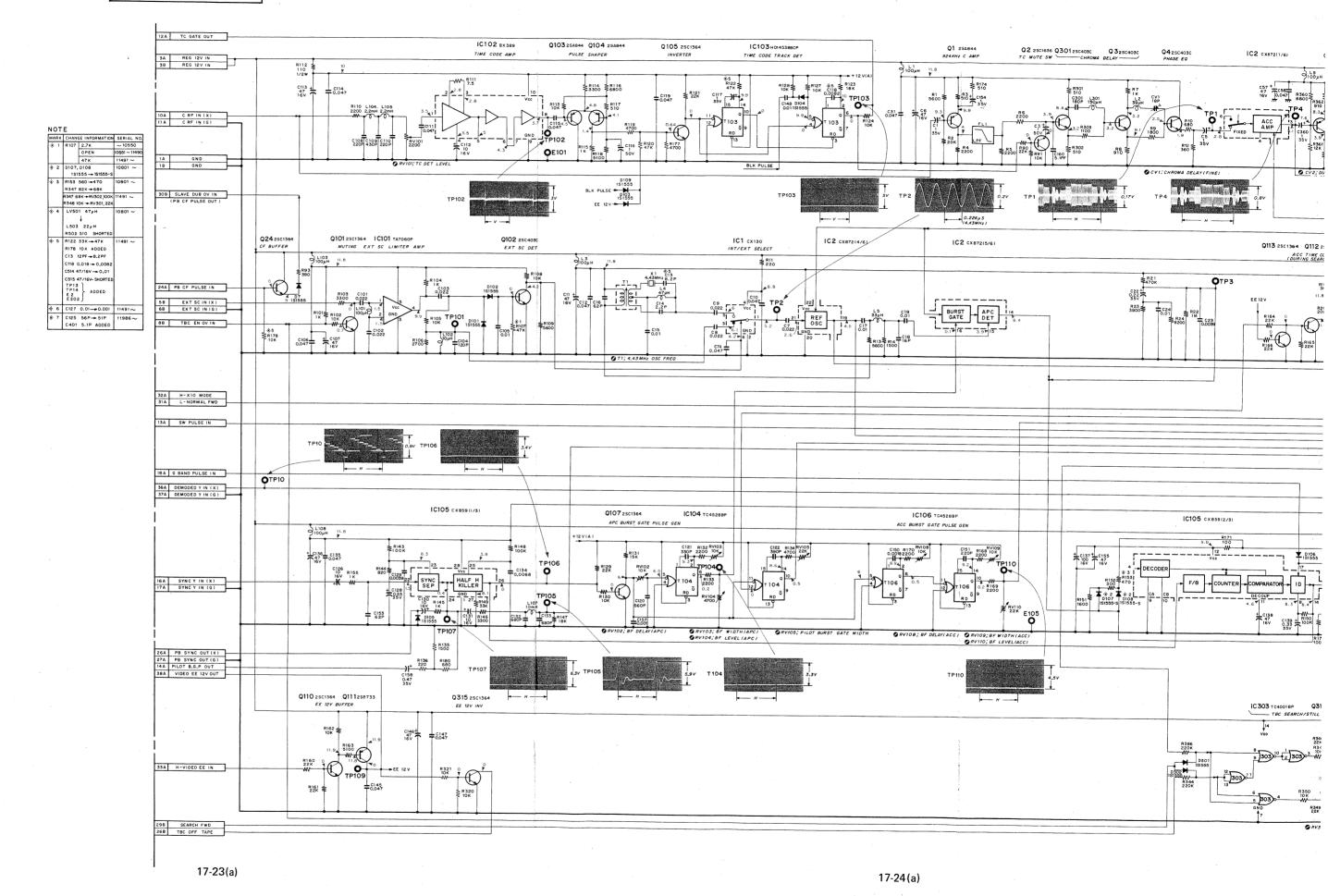
YD-9 (Y DEMODULATOR)

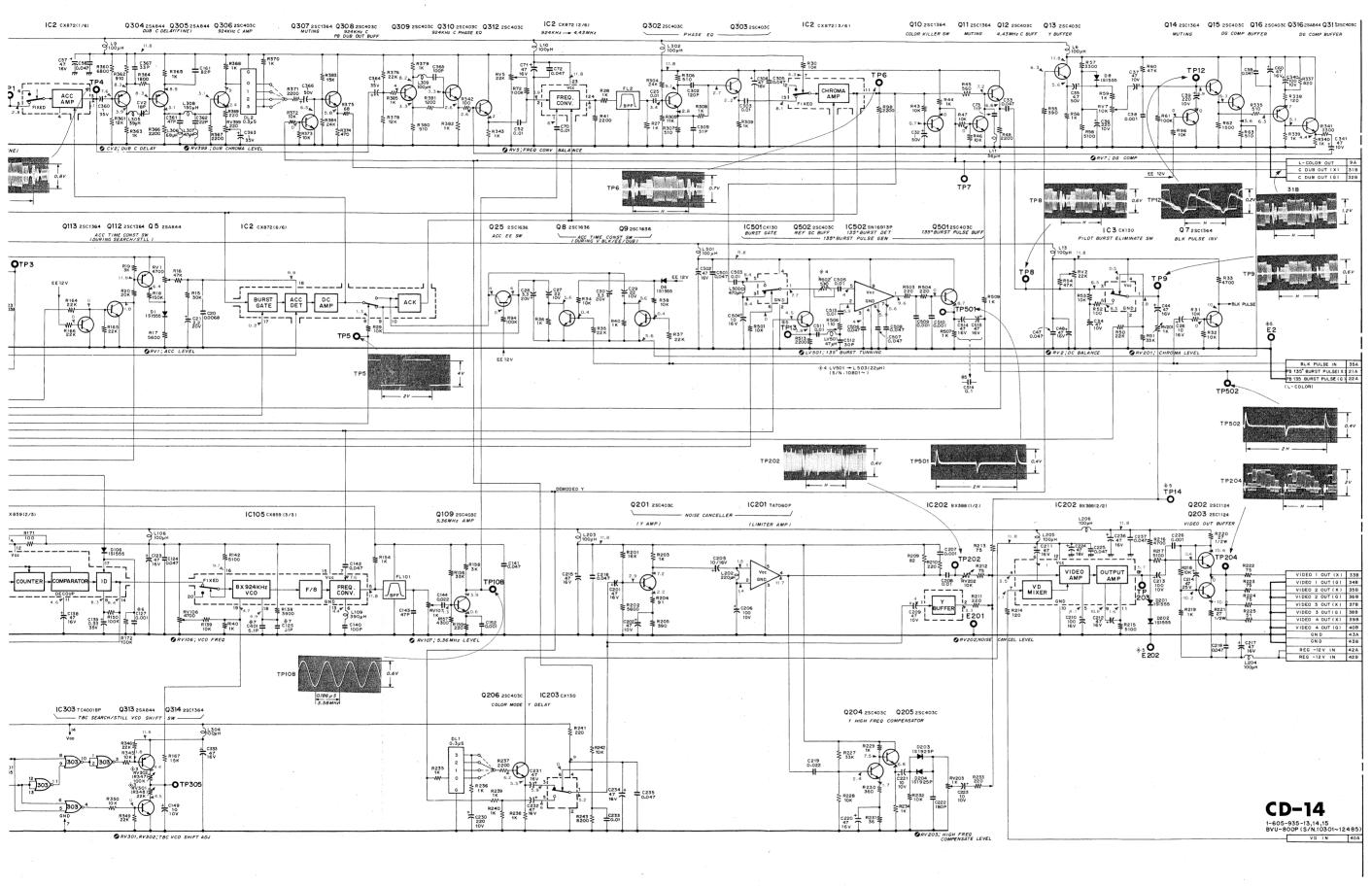
SER. NO. 12286 and higher



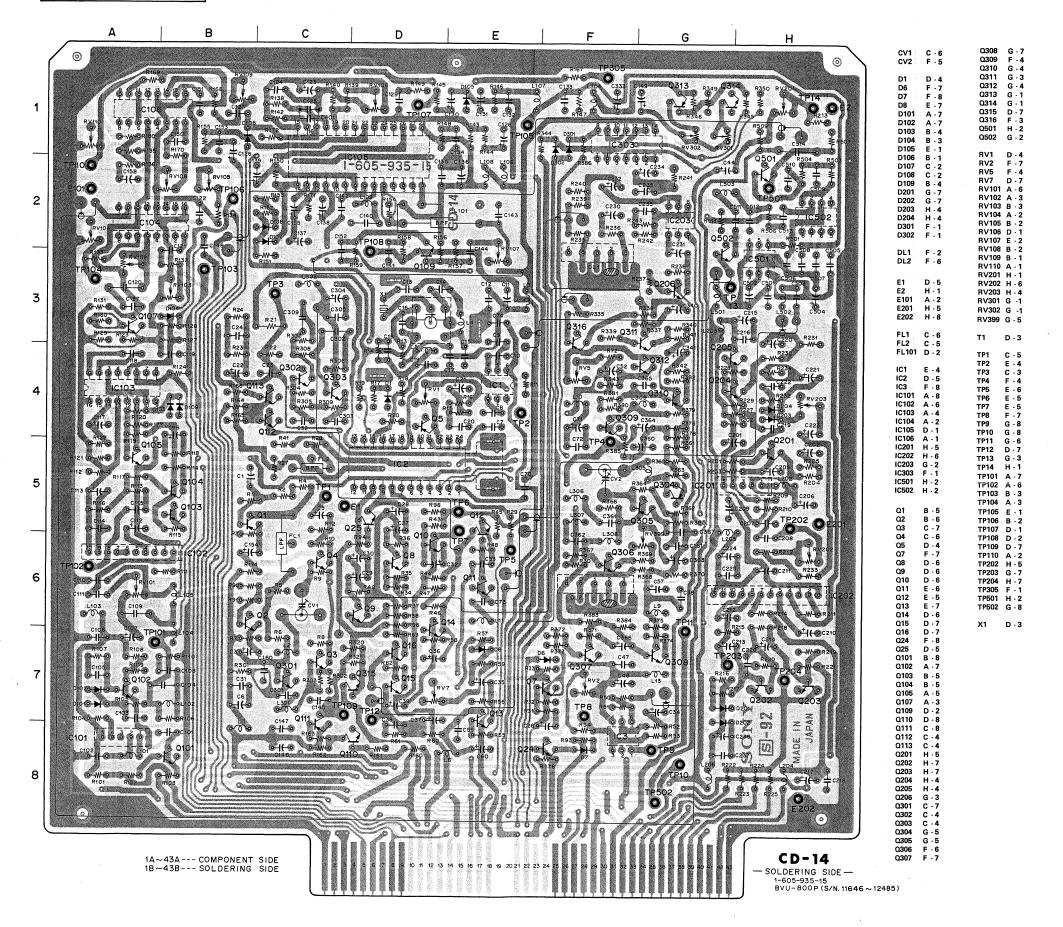




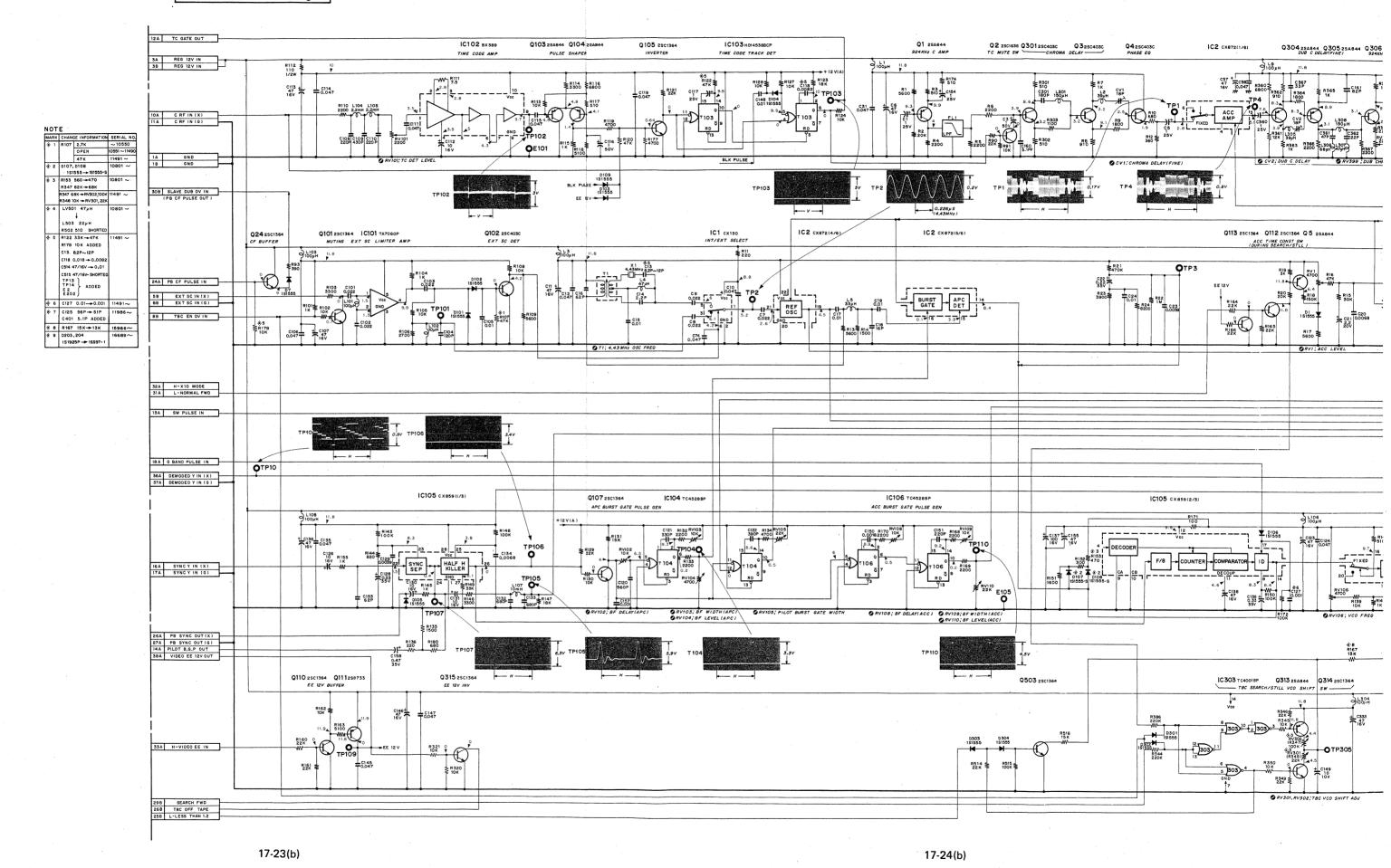


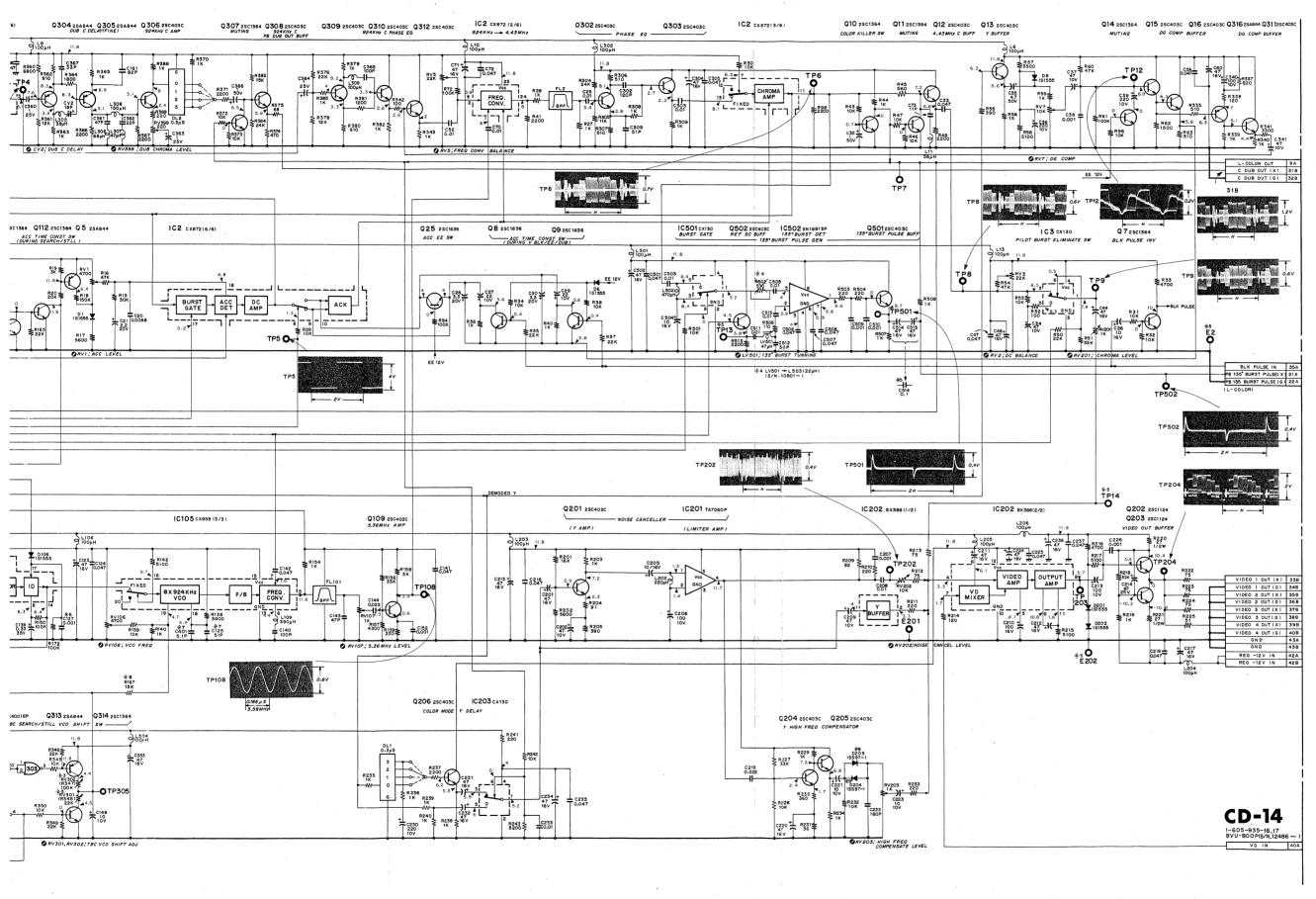


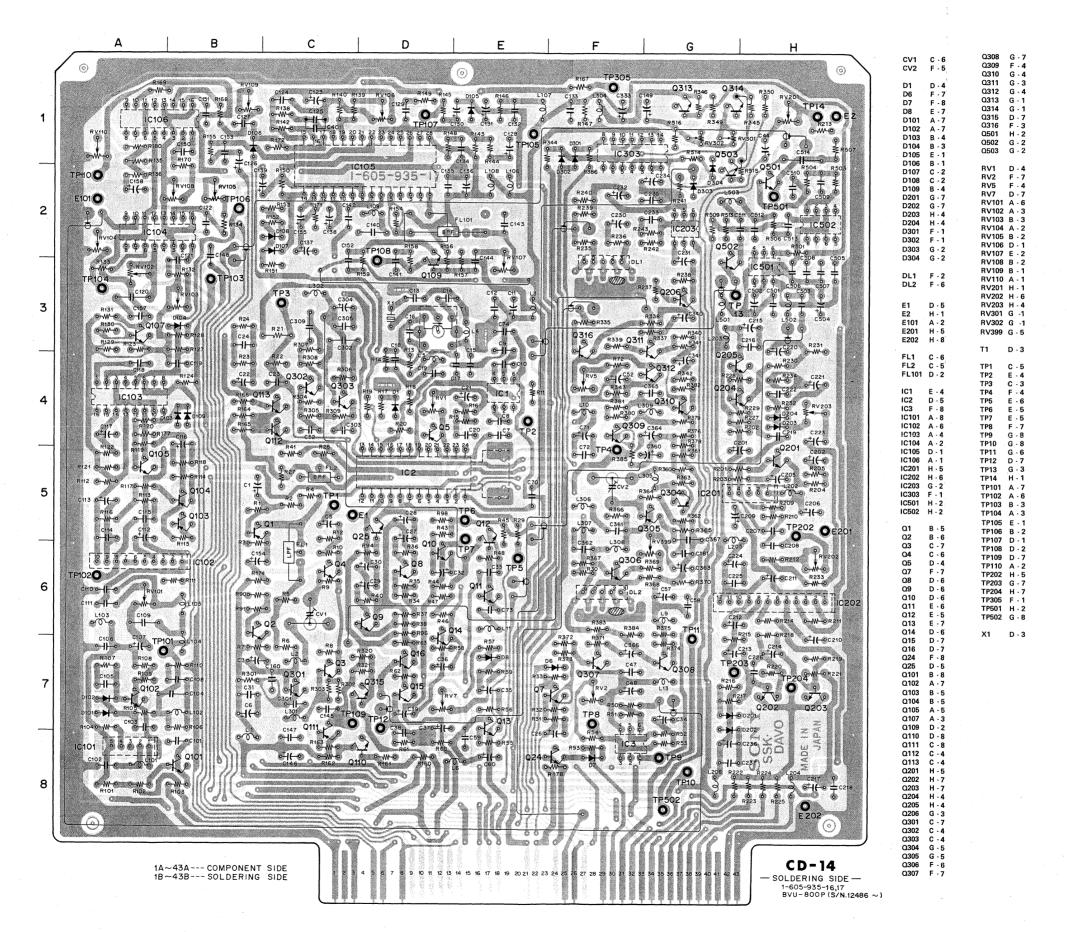
SER. NO. 11646 to 12485



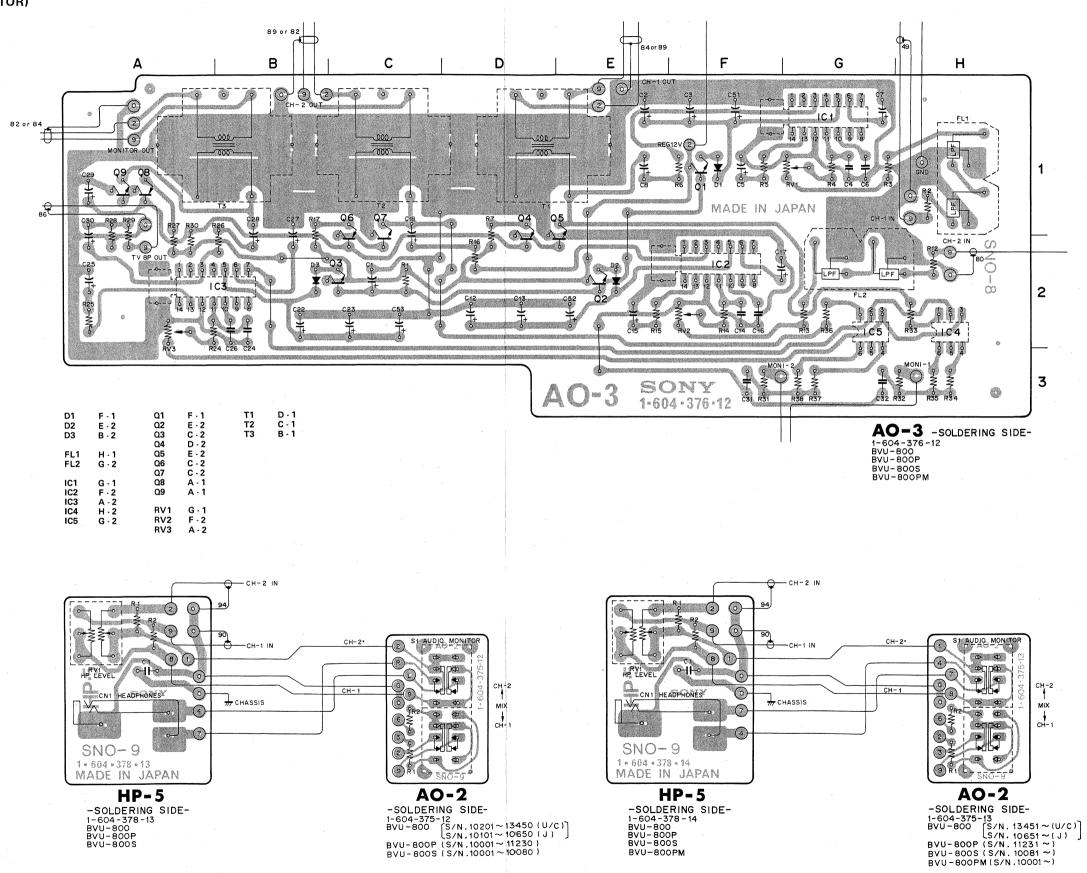
CD-14

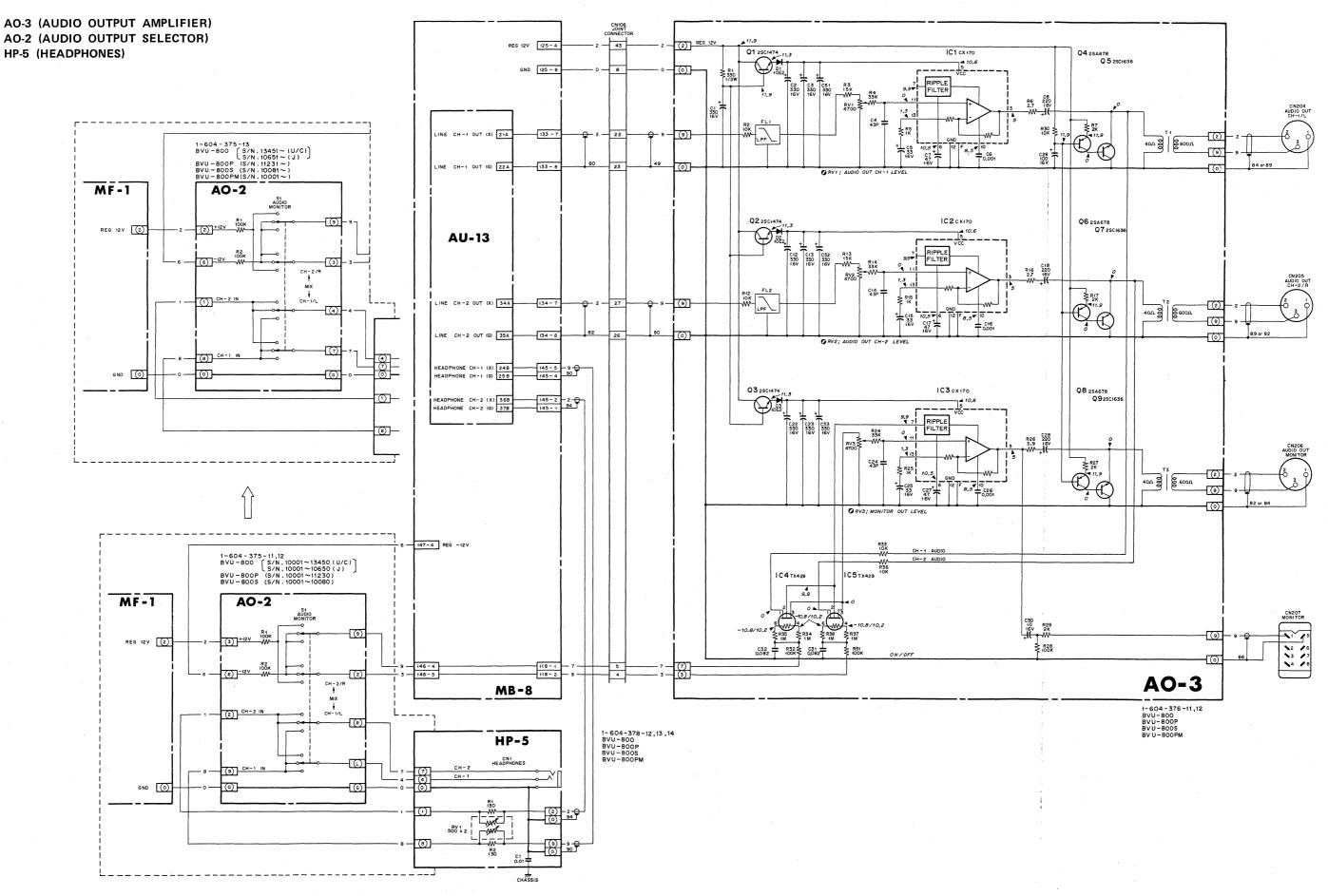




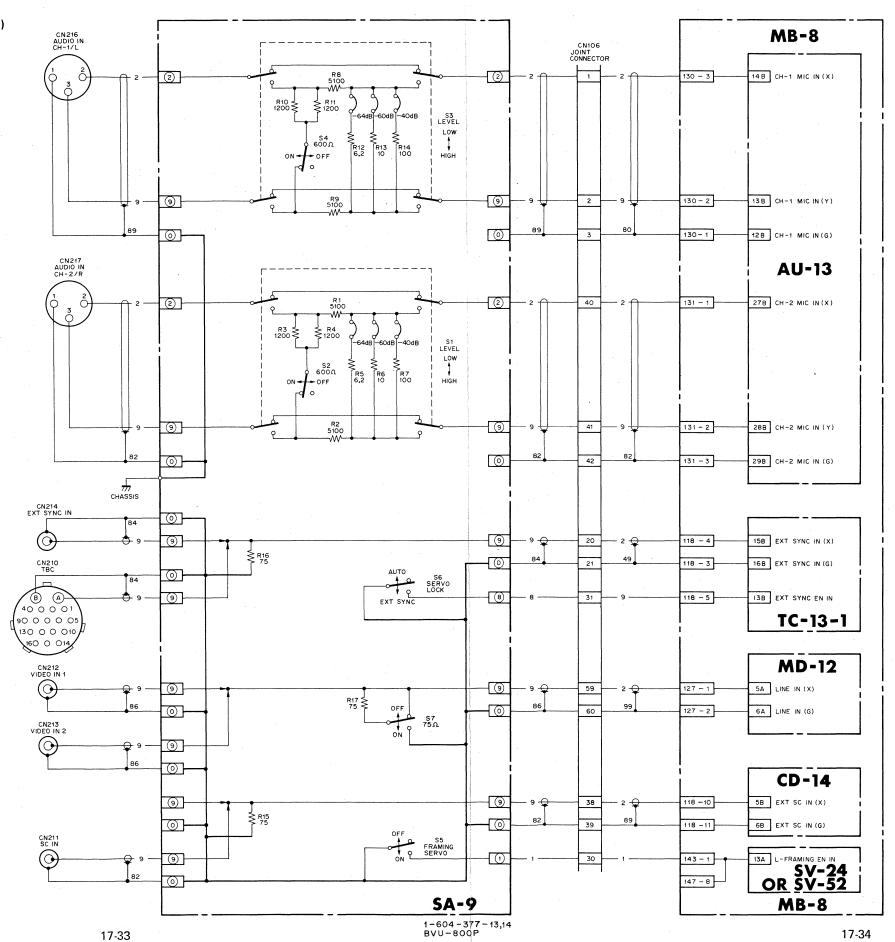


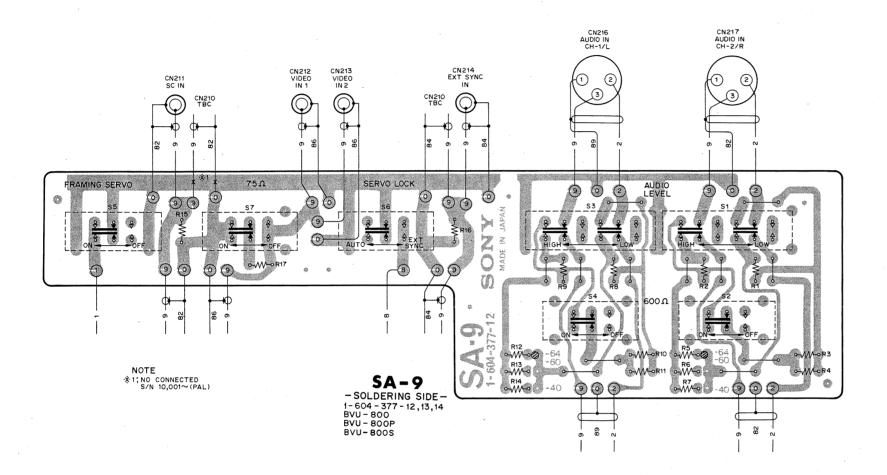


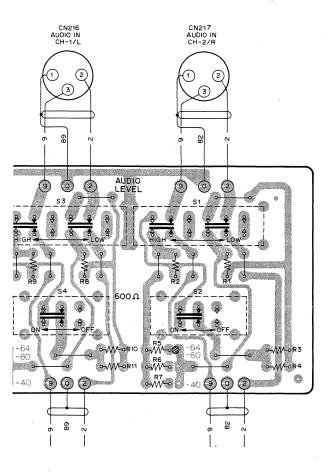






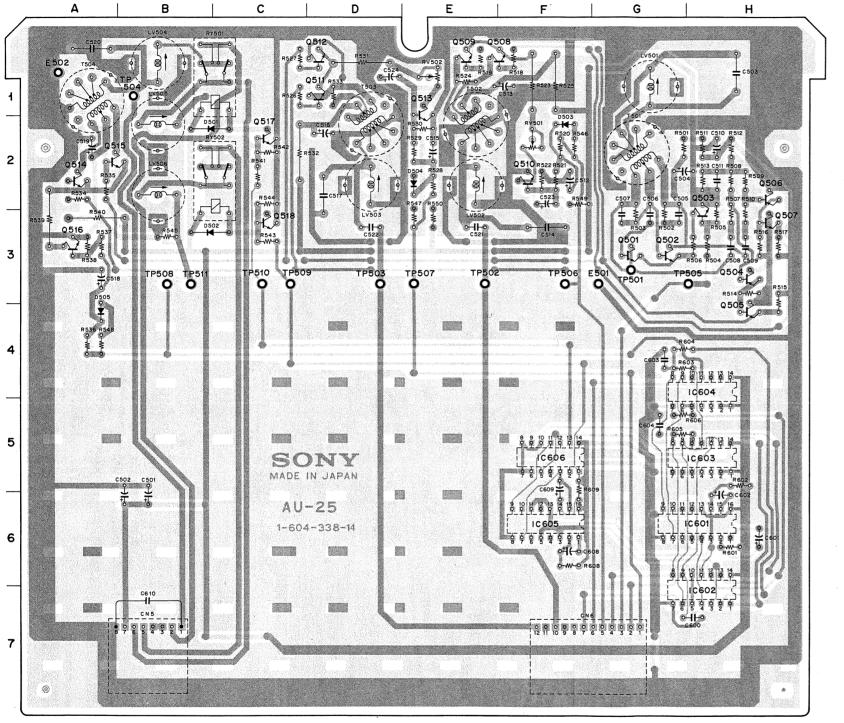






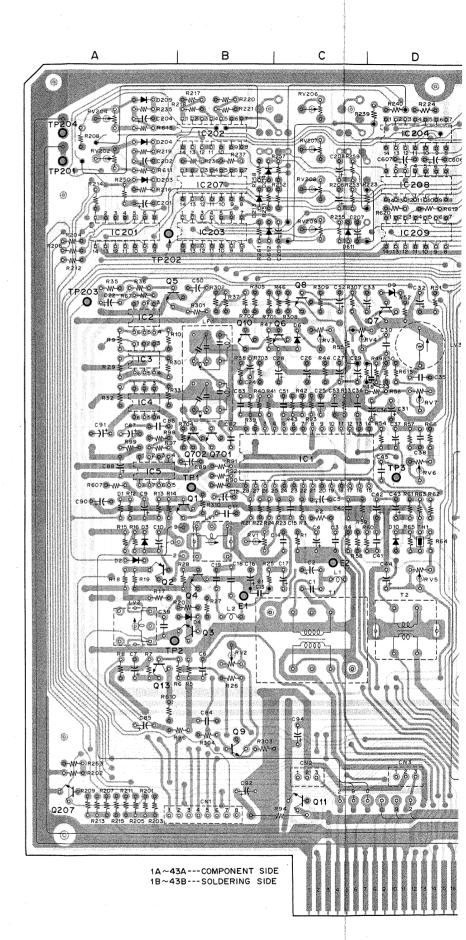
AU-13 (AUDIO REC/PB AMPLIFIER)
(AUDIO SYSTEM CONTROL)
AU-25 (BIAS/ERASE OSCILLATOR)

SER. NO. 11646 to 12335



AU-25 - SOLDERING SIDE-

1-604-338-14 BVU-800 BVU-800P BVU-800S BVU-800PM



E501 G · 3 E502 A · 1

IC601 H - 6 IC602 H - 7 IC603 H - 5 IC604 H - 4 IC605 F - 6 IC606 F - 5

LV501 G - 1 LV502 E - 2 LV503 D - 2 LV504 B - 1 LV505 B - 2 LV506 B - 2

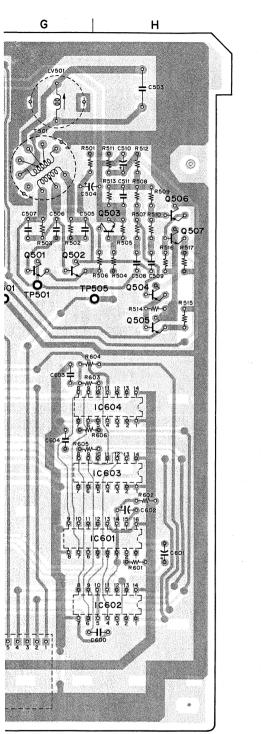
Q501 G 3 Q502 G 3 Q503 H 3 Q504 H 3 Q505 H 4 Q506 H 2 Q507 H 3 Q508 F -1 Q509 E 1 Q510 F -2 Q511 D -1 Q512 D 1 Q514 A 2 Q515 A 2 Q516 A 3 Q517 C -2 Q518 C 3

RV501 F - 2 RV502 E - 1

RY501 C - 1 RY502 C - 2

T501 G - 2 T502 E - 2 T503 D - 2 T504 A - 1

TP501 G - 3 TP502 E - 3 TP503 D - 3 TP504 B - 1 TP506 H - 3 TP506 F - 3 TP507 E - 3 TP508 B - 3 TP508 B - 3 TP509 C - 3 TP510 C - 3 TP511 B - 3



CN5 B - 7 CN6 F - 7

D501 B - 2 D502 B - 3 D503 F - 2 D504 E - 2 D505 A - 4

E501 G - 3 E502 A - 1

IC601 H - 6 IC602 H - 7 IC603 H - 5 IC604 H - 4

LV501 G - 1 LV502 E - 2 LV503 D - 2 LV504 B - 1 LV505 B - 2 LV506 B - 2

Q501 G · 3 Q502 G · 3 Q503 H · 3 Q504 H · 3 Q505 H · 4 Q506 H · 2 Q507 H · 3 Q508 F · 1 Q509 E · 1 Q510 F · 2 Q511 D · 1

Q511 D - 1 Q512 D - 1 Q513 E - 1 Q514 A - 2 Q515 A - 2 Q516 A - 3 Q517 C - 2

Q518 C - 3

RV501 F · 2 RV502 E · 1

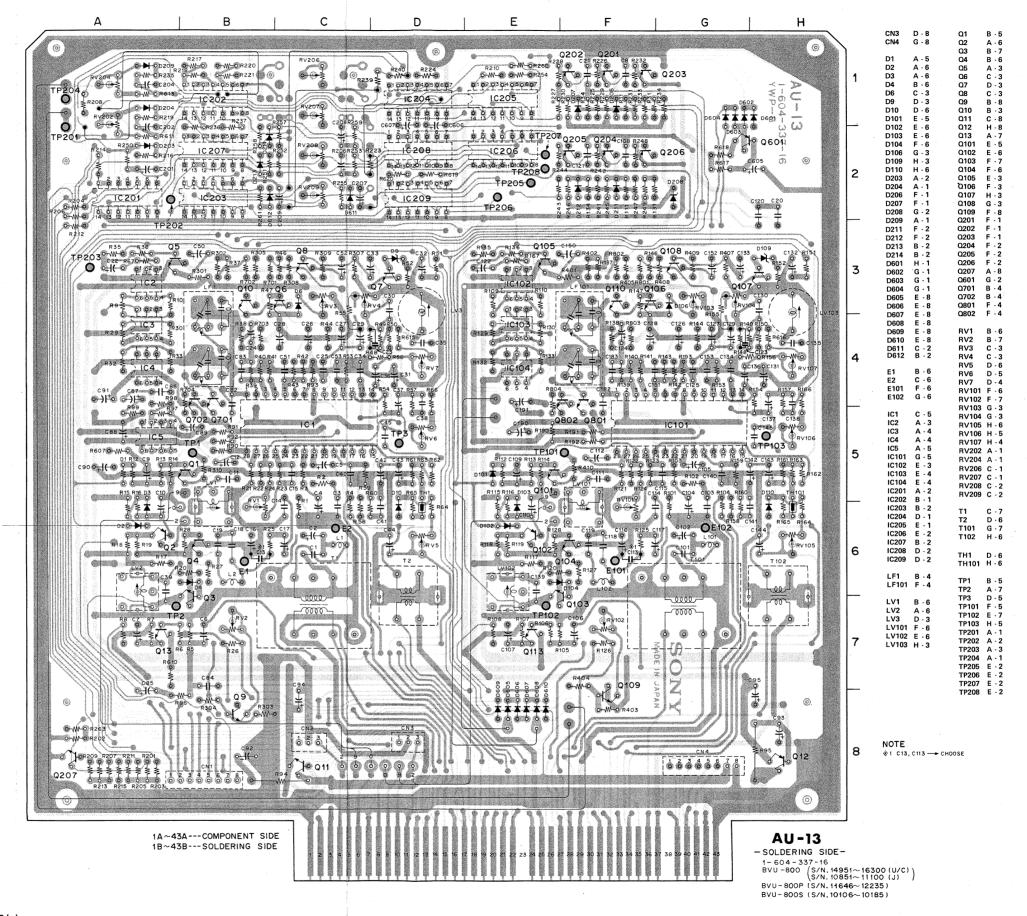
RY501 C - 1 RY502 C - 2

T501 G · 2 T502 E · 2 T503 D · 2 T504 A · 1

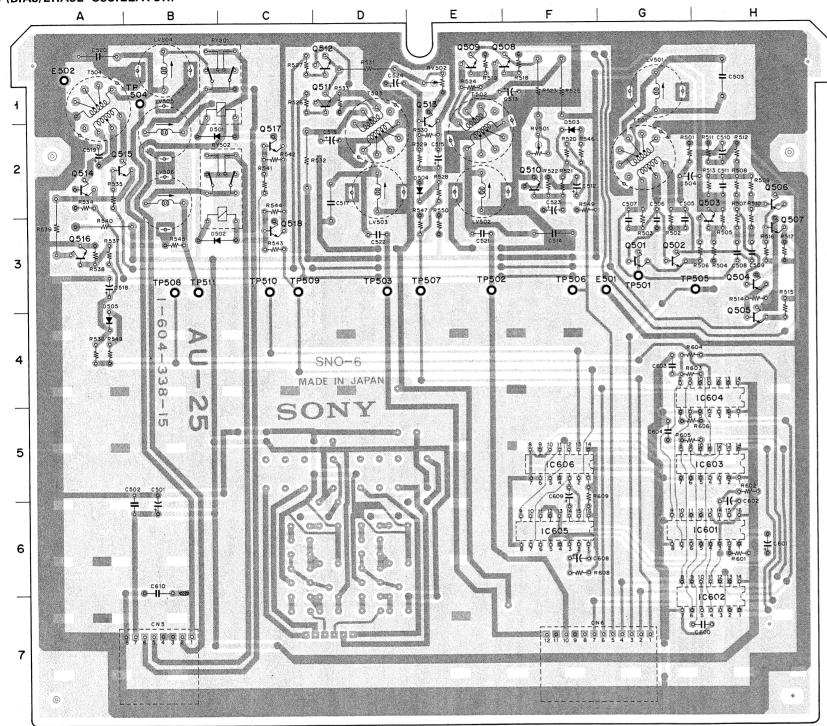
TP501 G - 3 TP502 E - 3 TP503 D - 3 TP504 B - 1 TP505 H - 3 TP506 F - 3 TP507 E - 3 TP508 B - 3 TP508 B - 3 TP509 C - 3 TP510 C - 3 TP511 B - 3

AU-25 - SOLDERING SIDE-1-604-338-14 BVU-800 BVU-800P BVU-800S

BVU-800PM



SER. NO. 12336 and higher



AU-25 - SOLDERING SIDE-

D501 B · 2 D502 B · 3 D503 F · 2 D504 E · 2 D505 A · 4

E501 G - 3 E502 A - 1

IC601 H - 6 IC602 H - 7 IC603 H - 5 IC604 H - 4 IC605 F - 6 IC606 F - 5

LV501 G - 1 LV502 E - 2 LV503 D - 2 LV504 B - 1

LV505 B - 2 LV506 B - 2

Q501 G · 3 Q502 G · 3 Q503 H · 3 Q504 H · 3 Q505 H · 4 Q506 H · 2 Q507 H · 3 Q508 F · 1 Q509 E · 1 Q510 F · 2 Q511 D · 1

Q512 D - 1 Q513 E - 1 Q514 A - 2

RV501 F - 2 RV502 E - 1

RY501 C - 1 RY502 C - 2

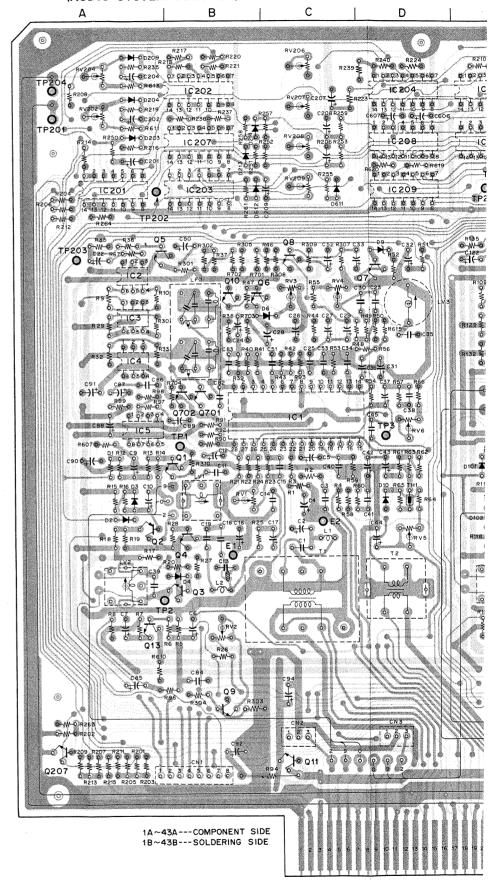
T501 G · 2 T502 E · 2 T503 D · 2 T504 A · 1

TP501 G - 3

TP501 G - 3
TP502 E - 3
TP503 D - 3
TP504 B - 1
TP505 H - 3
TP506 F - 3
TP507 E - 3
TP508 B - 3
TP509 C - 3
TP510 C - 3
TP511 B - 3

BVU-800P S/N. 16301 ~ (U/C) S/N. 11101 ~ (J) BVU-800P S/N. 12336 ~ BVU-800P S/N. 10186 ~ BVU-800PM S/N. 10151 ~

AU-13 (AUDIO REC/PB AMPLIFIER) (AUDIO SYSTEM CONTROL)



AU-13, AU-25

AU-13 (AUDIO REC/PB AMPLIFIER)

AU-13, AU-25

D501 B - 2 D502 B - 3 D503 F - 2 D504 E - 2 D505 A - 4

F501 G.3

IC601 H - 6 IC602 H - 7 IC603 H - 5 IC604 H - 4

LV501 G - 1 LV502 E - 2 LV503 D - 2

LV504 B - 1 LV505 B - 2 LV506 B - 2

Q501 G - 3 Q502 G - 3 Q503 H - 3 Q504 H - 4 Q506 H - 4 Q506 H - 2 Q507 H - 3 Q508 F - 1 Q510 F - 2 Q511 D - 1 Q512 D - 1 Q513 E - 1 Q514 A - 2

Q514 A - 2 Q515 A - 2 Q516 A - 3 Q517 C - 2

Q518 C - 3

RV501 F - 2

RV502 E - 1

RY502 C - 2

TP501 G - 3

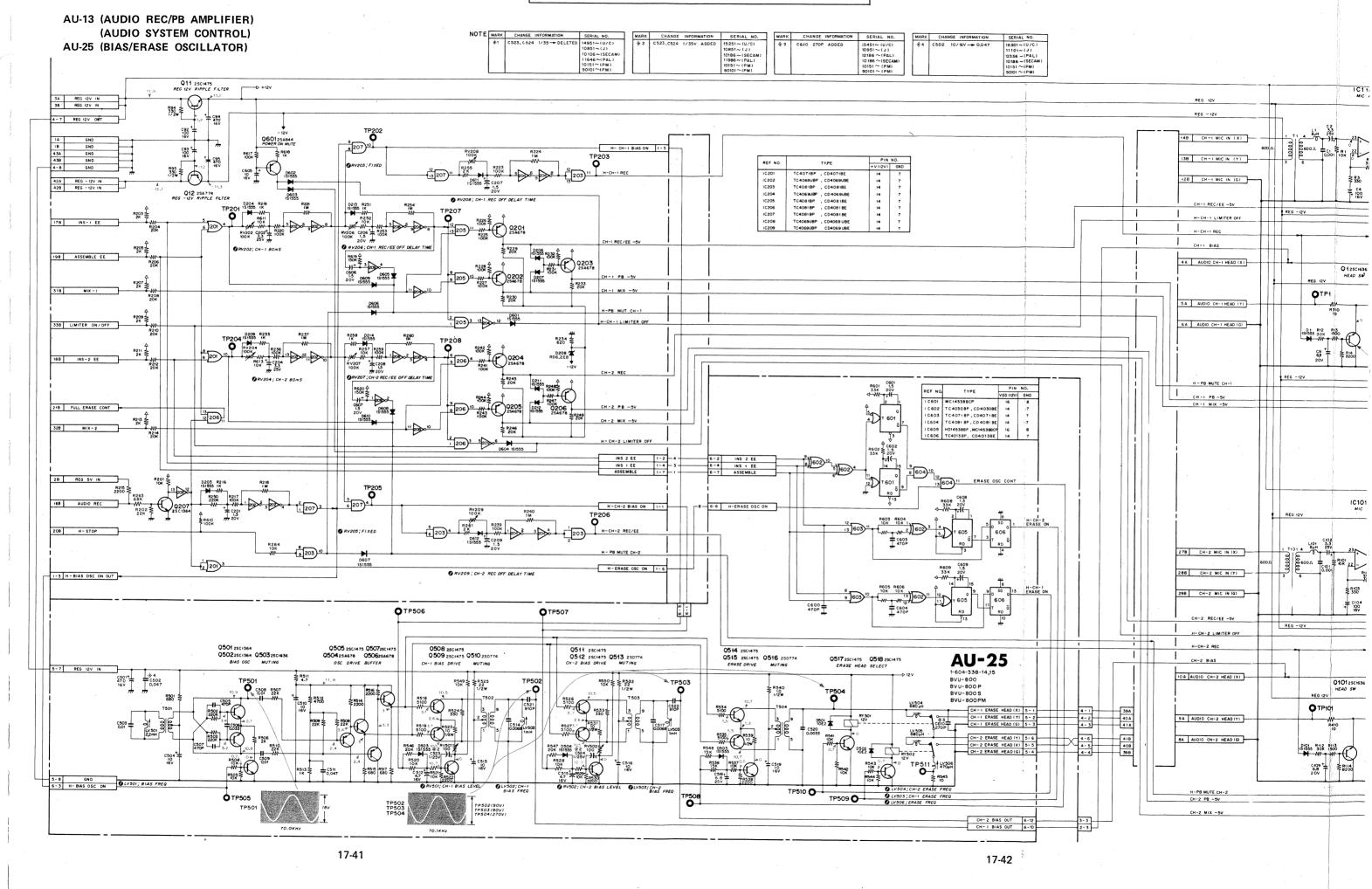
TP504 B - 1

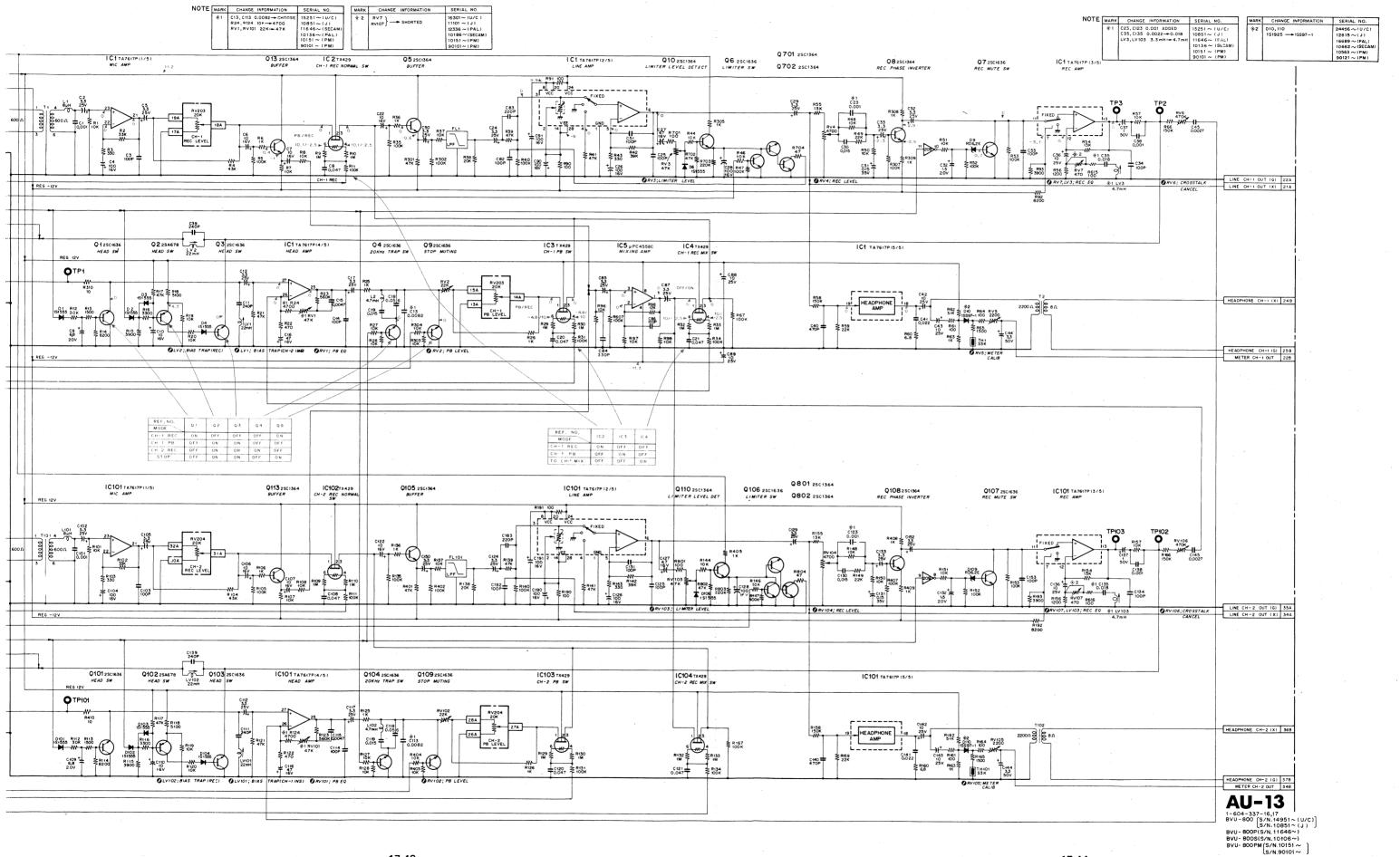
TP504 B - 1 TP505 H - 3 TP506 F - 3 TP507 E - 3

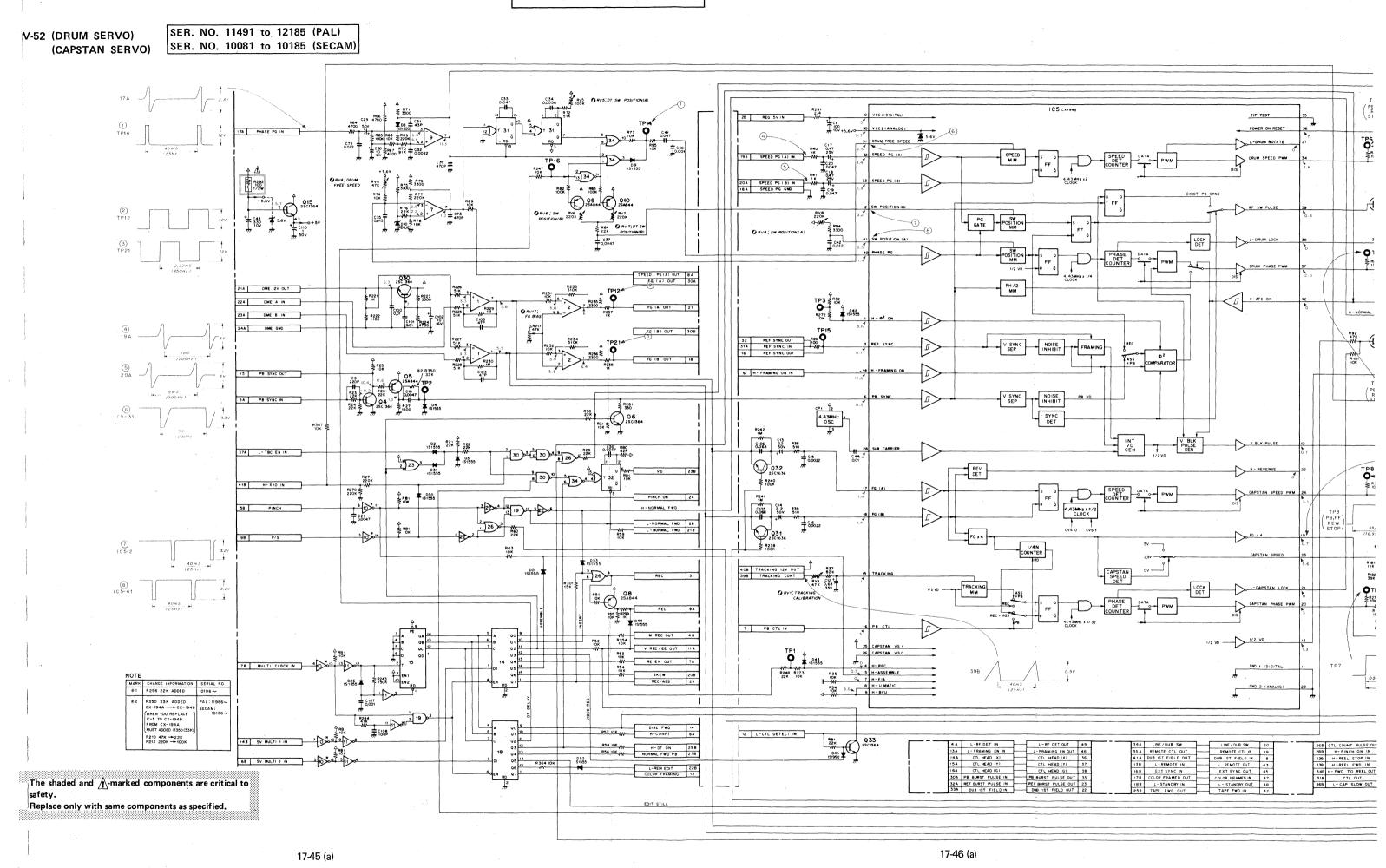
TP508 B - 3 TP509 C - 3 TP510 C - 3

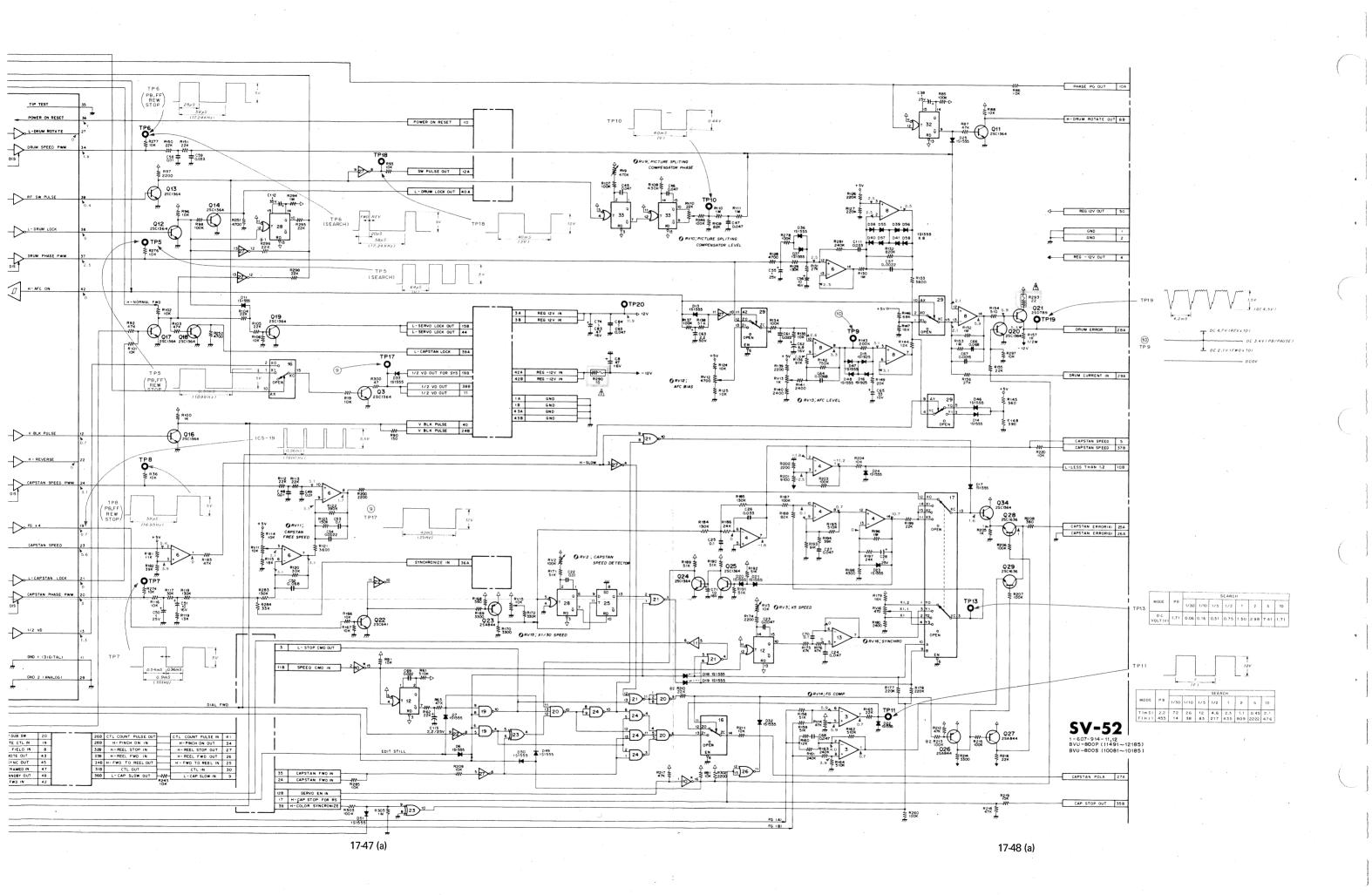
AU-25 - SOLDERING SIDE-604-338-15
-804-800 (\$\frac{\mathrm{S/N}}{\mathrm{16301}} \times (\mathrm{U/C})\)
-8009 \$\frac{\mathrm{N}}{\mathrm{1101}} \times (\mathrm{J})\)
-8009 \$\frac{\mathrm{N}}{\mathrm{1101}} \times (\mathrm{J})\)
-8009 \$\frac{\mathrm{N}}{\mathrm{N}} \times (1015) \times \)
-8009 \$\frac{\mathrm{N}}{\mathrm{N}} \times (1015) \times \)
-8009 \$\frac{\mathrm{N}}{\mathrm{N}} \times (1015) \times \)

(AUDIO SYSTEM CONTROL) 0-W-0 0-W-0R254 0-W-0R235 0-1(-0C204 IC205 D101 D102 D103 D104 D106 D109 D110 D203 D204 D206 D207 D208 D209 **∄**° 060€ IC 208 01401301201101009 08 TP205 O * 0 € IC209 14 13 12 11 10 0 D211 D212 D213 D214 D601 D602 D603 D604 D605 D606 D607 D608 D609 D610 RV1 RV2 RV3 RV4 D611 D612 B · 6 C · 6 F · 6 G · 6 E2 E101 E102 RV103 G - 3 IC1 C - 5
IC2 A - 3
IC3 A - 4
IC4 A - 4
IC5 A - 5
IC101 G - 5
IC102 E - 3
IC103 E - 4
IC104 E - 4
IC201 A - 2
IC202 B - 1
IC203 B - 2
IC204 D - 1
IC205 E - 1
IC205 E - 1
IC206 E - 2
IC207 B - 2
IC208 D - 2
IC209 D - 2 RV105 H - 6 RV106 H - 5 RV202 A · 1 RV204 A · 1 RV206 C - 1 RV207 C - 1 RV208 C - 2 RV209 C - 2 T1 C · 7 T2 D · 6 T101 G · 7 T102 H · 6 TH1 D - 6 TH101 H - 6 TP1 TP2 TP3 LF1 B 4 LF101 F 4 TP101 TP102 TP103 LV1 B · 6 LV2 A · 6 LV3 D · 3 LV101 F · 6 LV102 E · 6 LV103 H · 3 ----TP201 A - 1 TP202 A - 2 TP203 A - 3 TP204 A - 1 TP205 E - 2 TP206 E - 2 TP207 E - 2 TP208 E - 2 6 6 6 0 (0) R26 0-W-0 0-W-0 0 0109 CS4 OHO 09 PO 0-W-0 09 R303 OHO 0-W-0 C94 9-)|-@ Q11 1A~43A---COMPONENT SIDE **AU-13** 1B~43B---SOLDERING SIDE -SOLDERING SIDE-1-604-337-17 BVU-800 (S/N.16301~(U/C)) (S/N.11101~(J)) BVU-800P (S/N.12336~) BVU-800S (S/N.10186~) BVU-800PM(S/N.10151~) 17-39(b) 17-40(b)





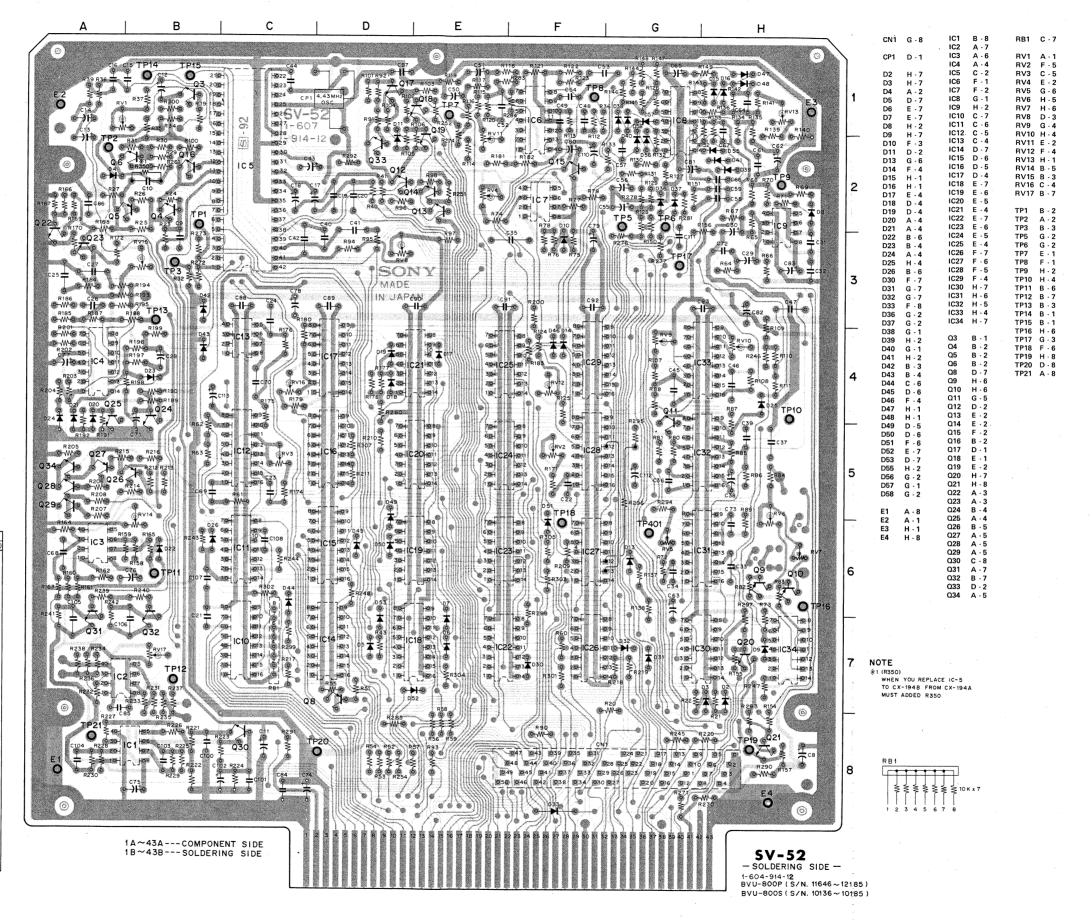




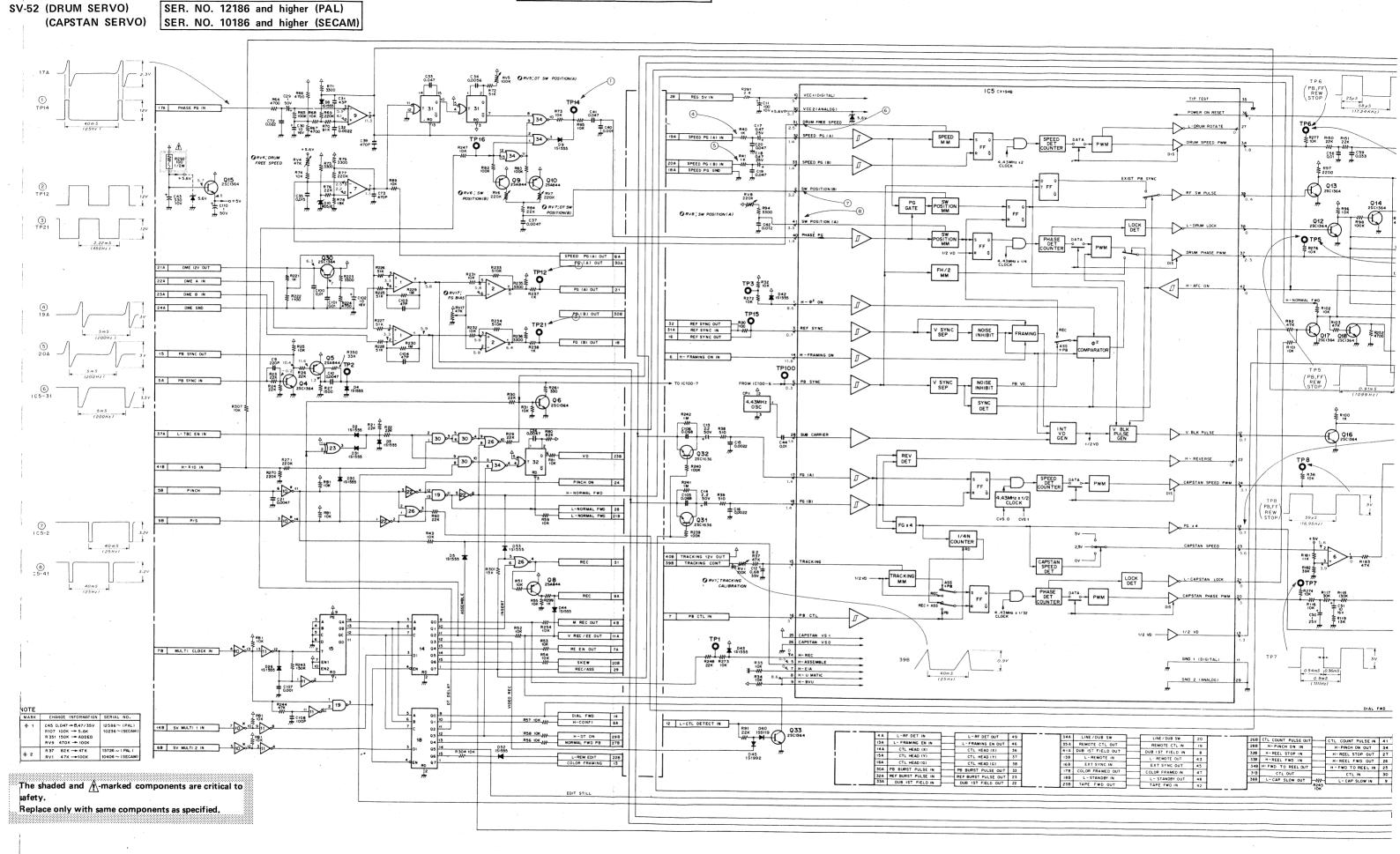
SV-52 (DRUM SERVO) (CAPSTAN SERVO)

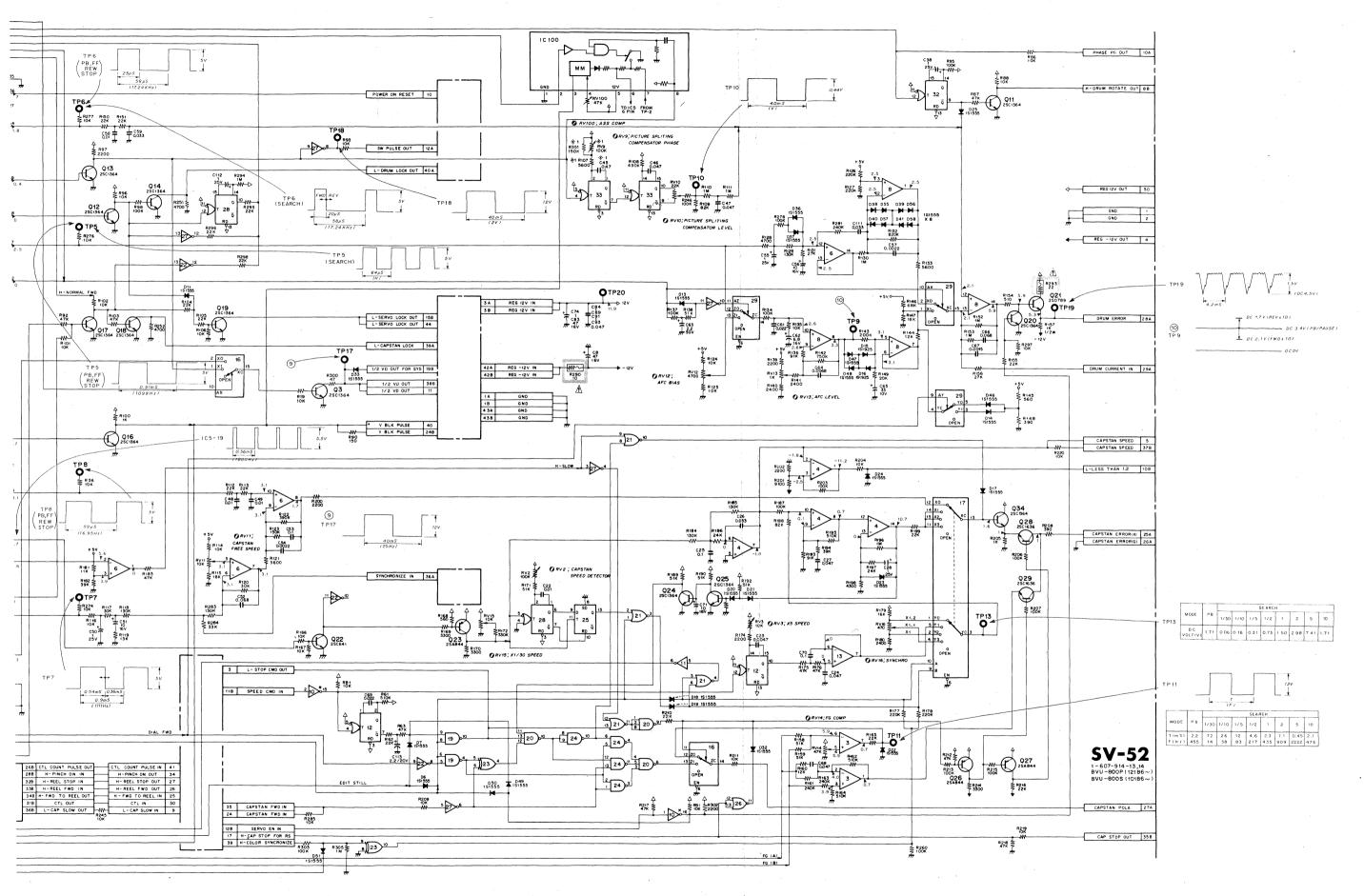
SER. NO. 11646 to 12185 (PAL)

	REF NO.	TYPE	PIN NO.				
			+V(+12V)	+V(5V)	GND	-V(-12V)	
	IC 1	μPC4558C	8		4		
	IC 2	NJM2903D	8		4		
	IC 3	µPC4558C	8			4	
	1C 4	µPC 324C	4			11	
	1	CX194A .	30	10	11,29		
	10.6	μPC324C	4		11		
		μPC311C	8		1,4		
		μPC324C	4		11		
	IC 9	μPC311C	8		1,4		
	IC 10	M54517P			8		
	IC11	TC4069UBP,CD4069UBE	14		7		
	IC12	MC14538BCP	16		8		
	IC 13	μPC4558C	8			4	
	IC 14	TC4099BP, CD4099BE	16		8		
	IC 15	TC40161BP, CD40161BE	16		8		
	1016	TC4053BP , CD4053BE	16		8		
	IC17	TC4052BP , CD4052BE	16		8		
	IC18	TC4099BP , CD4099BE	16		8		
	1019	TC4011BP , CD4011BE	14		7		
	IC 20	TC4023BP , CD4023BE	14		7		
	IC 21	TC4001BP , CD4001BE	14		7		
	IC 22	TC4069UBP, CD4069UBE	14		7		
	1C 23	TC4030BP , CD4030BE	14		7		
	IC 24	TC4011BP , CD4011BE	14		7		
	IC 25	TC4013BP , CD4013BE	14		7		
	IC 26	TC4001BP , CD4001BE	14		7		
	IC 27	TC4069UBP, CD4069UBE	14		7		
	IC 28	MC14538BCP	16		8		
	IC 29	TC4053BP , CD4053BE	16		8		
	1C 30	TC4011BP , CD4011BE	14		7		
	IC 31	MC14538BCP	16		8		
		MC14538BCP	16		8	- 1	
		MC14538BCP	16		8	- 1	
	IC 34	TC4001BP , CD4001BE	14		7	l	



2 SV-52

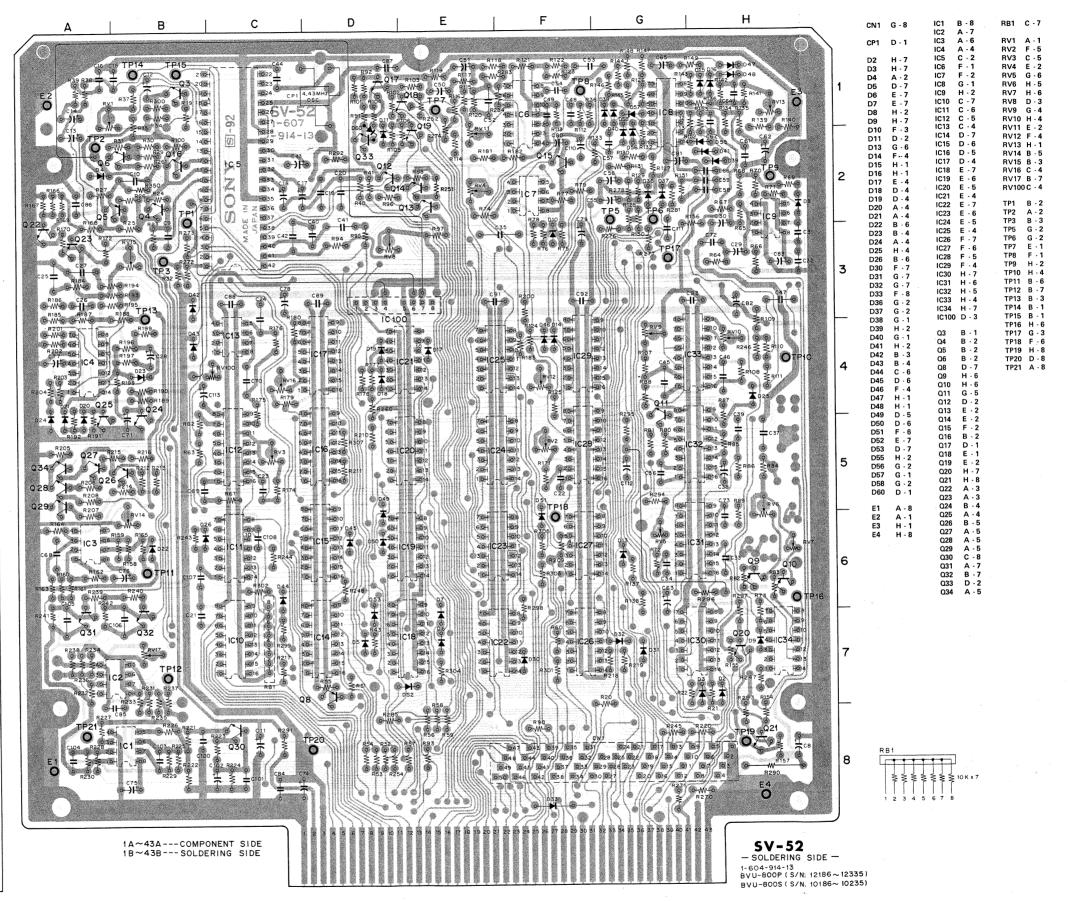




SV-52 (DRUM SERVO) (CAPSTAN SERVO)

SER. NO. 12186 to 12335 (PAL) SER. NO. 10186 to 10235 (SECAM)

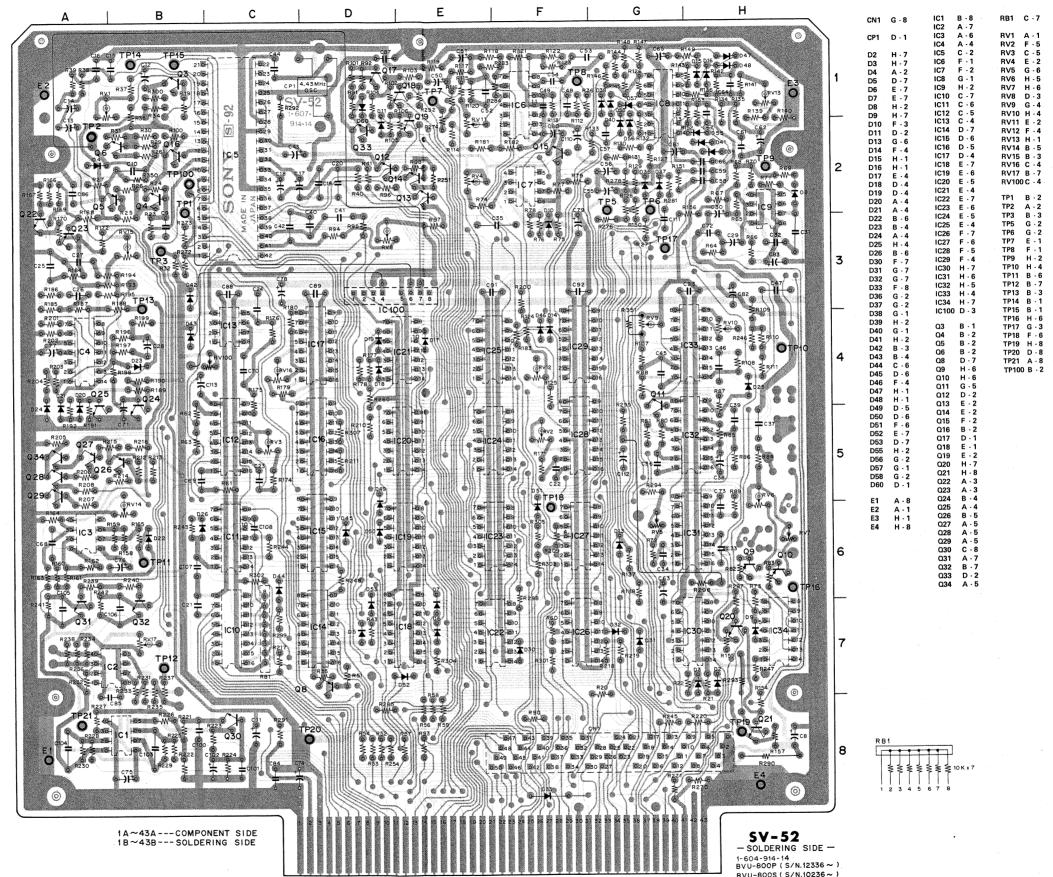
REF NO.	TYPE	+V(+12V)	+V(5V)	GND	-V(-12V)
1C 1	μPC4558C	8		4	
IC 2	NJM2903D	8		4	
IC 3	μPC4558C	8	1		4
IC 4	µPC 324C	4			11
IC 5	CX194A	30	10	11,29	
IC 6	μPC324C	4		11	
IC 7	μPC311C	8		1,4	
10.8	µPC324C	4		11	
IC 9	µPC311C	8		1,4	
IC 10	M54517P			8	
IC11	TC4069UBP,CD4069UBE	14		7	
IC12	MC14538BCP	16		8	
IC 13	μPC4558C	8			- 4
IC 14	TC4099BP, CD4099BE	16	'	8	
IC 15	TC40161BP, CD40161BE	16		8	
IC16	TC4053BP , CD4053BE	16	1	8	
IC17	TC4052BP, CD4052BE	16		8	
IC18	TC4099BP, CD4099BE	16		8	
IC19	TC4011BP , CD4011BE	14		7	1
IC 20	TC4023BP , CD4023BE	14		7	
IC 21	TC4001BP , CD4001BE	14		7	
IC 22	TC4069UBP, CD4069UBE	14		7	1
IC 23	TC4030BP , CD4030BE	14		7	
IC 24	TC4011BP , CD4011BE	14		7	
IC 25	TC4013BP , CD4013BE	14		. 7	
IC 26	TC4001BP , CD4001BE	14	,	7	1
IC 27	TC4069UBP, CD4069UBE	14		7	
IC 28	MC14538BCP	16		8	
IC 29	TC4053BP , CD4053BE	16		8	
1C 30	TC4011BP , CD4011BE	14		7	
IC 31	MC14538BCP	16		8	
IC 32	MC14538BCP	16		8	
IC 33	MC14538BCP	16		8	
IC 34	TC4001BP , CD4001BE	14		7	



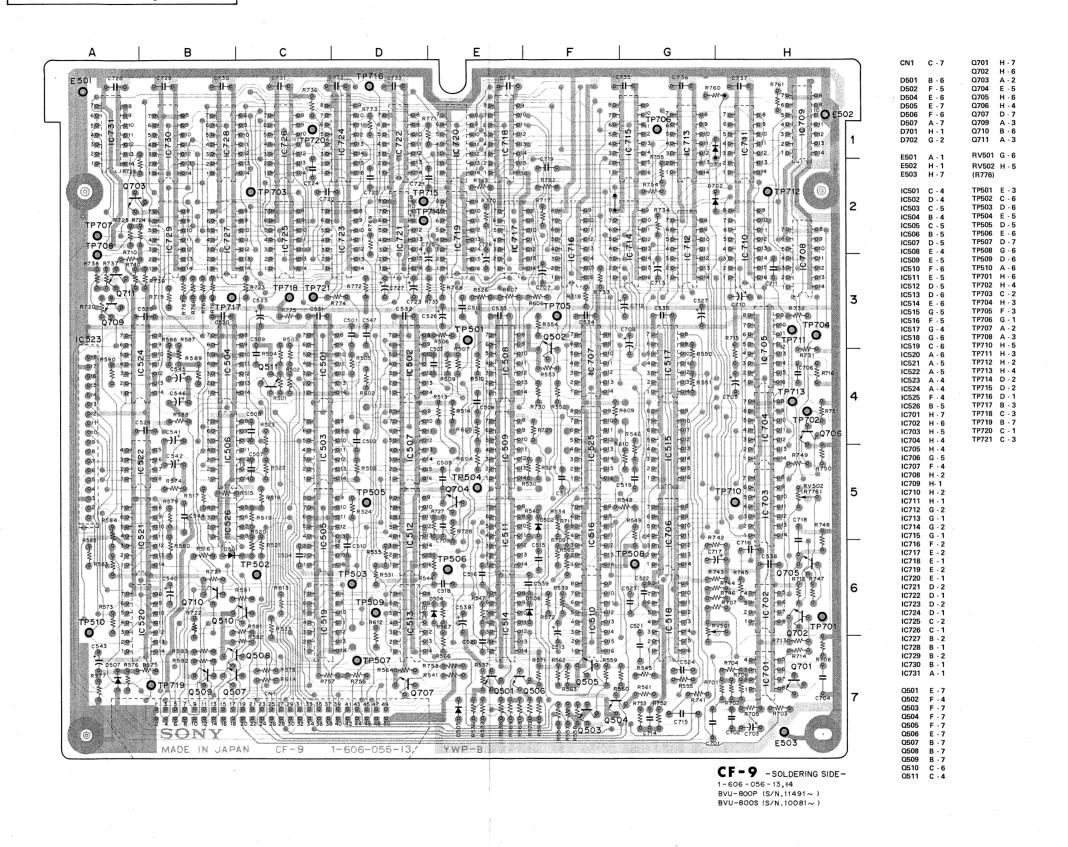
SV-52 (DRUM SERVO) (CAPSTAN SERVO)

SER. NO. 12336 and higher (PAL) SER. NO. 10236 and higher (SECAM)

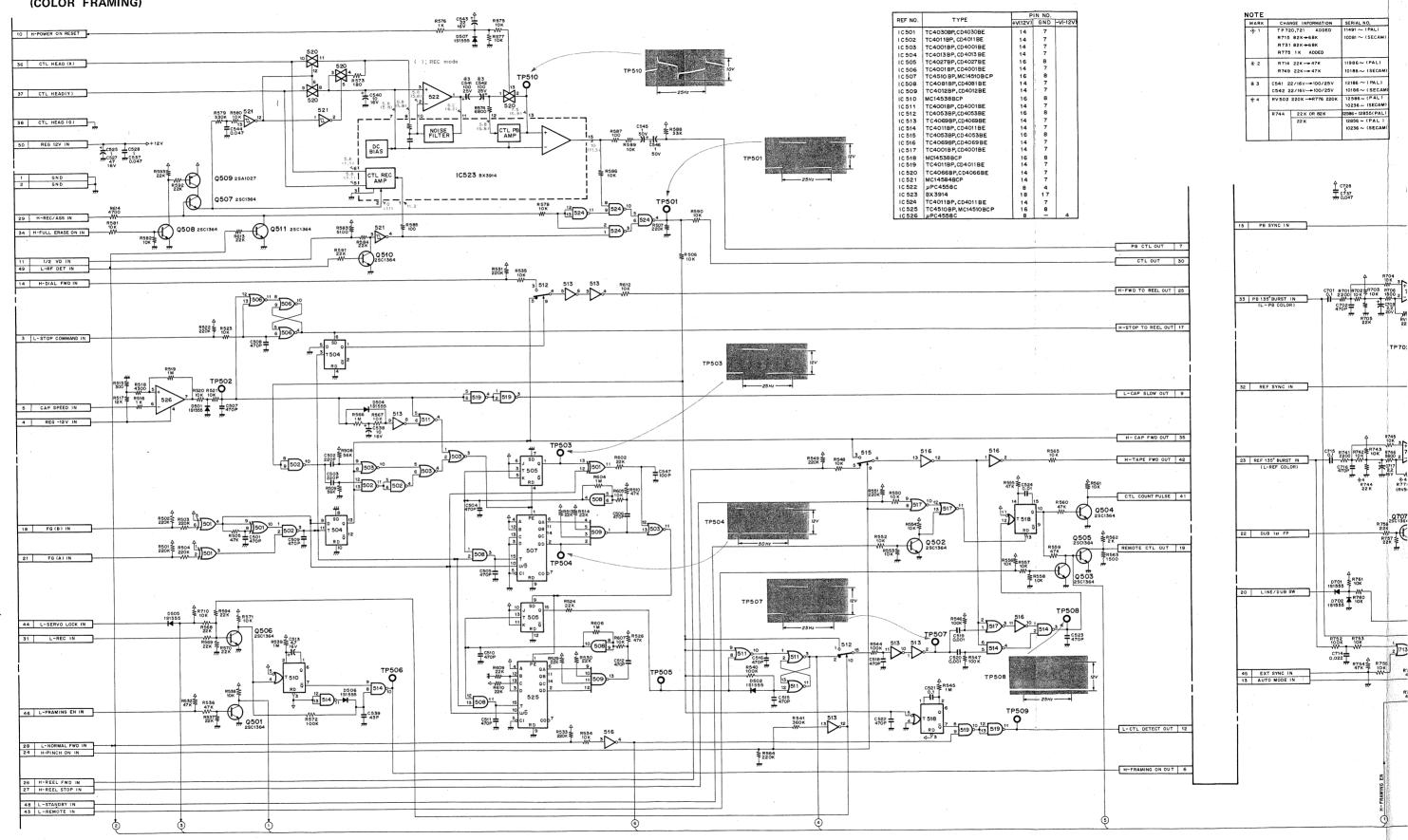
			PIN	NO.	
REF NO.	TYPE	+V(+12V)	+V(5V)	GND	-V(-12V)
IC 1.	µPC4558C	8		4	
1C 2	NJM2903D	8		4	
103	μPC4558C	8			4
104	µPC324C	4			. 11
IC 5	CX194A	30	10	11,29	
106	μPC324C .	4		11	
IC 7	μPC311C	8		1,4	
10.8	μPC324C	4		11	
10.9	μPC311C	8		1,4	
1010	M54517P			8	
1011	TC4069UBP,CD4069UBE	14		7	
IC12	MC14538BCP	16		8	
IC 13	μPC4558C	8			4
IC 14	TC4099BP, CD4099BE	16		8	
IC 15	TC40161BP, CD40161BE	16		8	-
1016	TC4053BP, CD4053BE	16		8	
IC17	TC4052BP, CD4052BE	16	ł	8	
IC18	TC4099BP , CD4099BE	16		8	
1019	TC4011BP , CD4011BE	14		7	
IC 20	TC4023BP , CD4023BE	14		7	
IC 21	TC4001BP , CD4001BE	14		7	
IC 22	TC4069UBP, CD4069UBE	14	ĺ	7	
1C 23	TC4030BP , CD4030BE	- 14	Ì	7	
IC 24	TC4011BP , CD4011BE	14		7	
IC 25	TC4013BP , CD4013BE	14		7	
IC 26	TC4001BP , CD4001BE	14		7	
IC 27	TC4069UBP, CD4069UBE	14		7	
IC 28	MC14538BCP	16		8	
IC 29	TC4053BP , CD4053BE	16		8	
IC 30	TC4011BP , CD4011BE	14		7	
IC 31	MC14538BCP	16	~.	8	
IC 32	MC14538BCP	16		8	
IC 33	MC14538BCP	16		8	
IC 34	TC4001BP , CD4001BE	14		7	

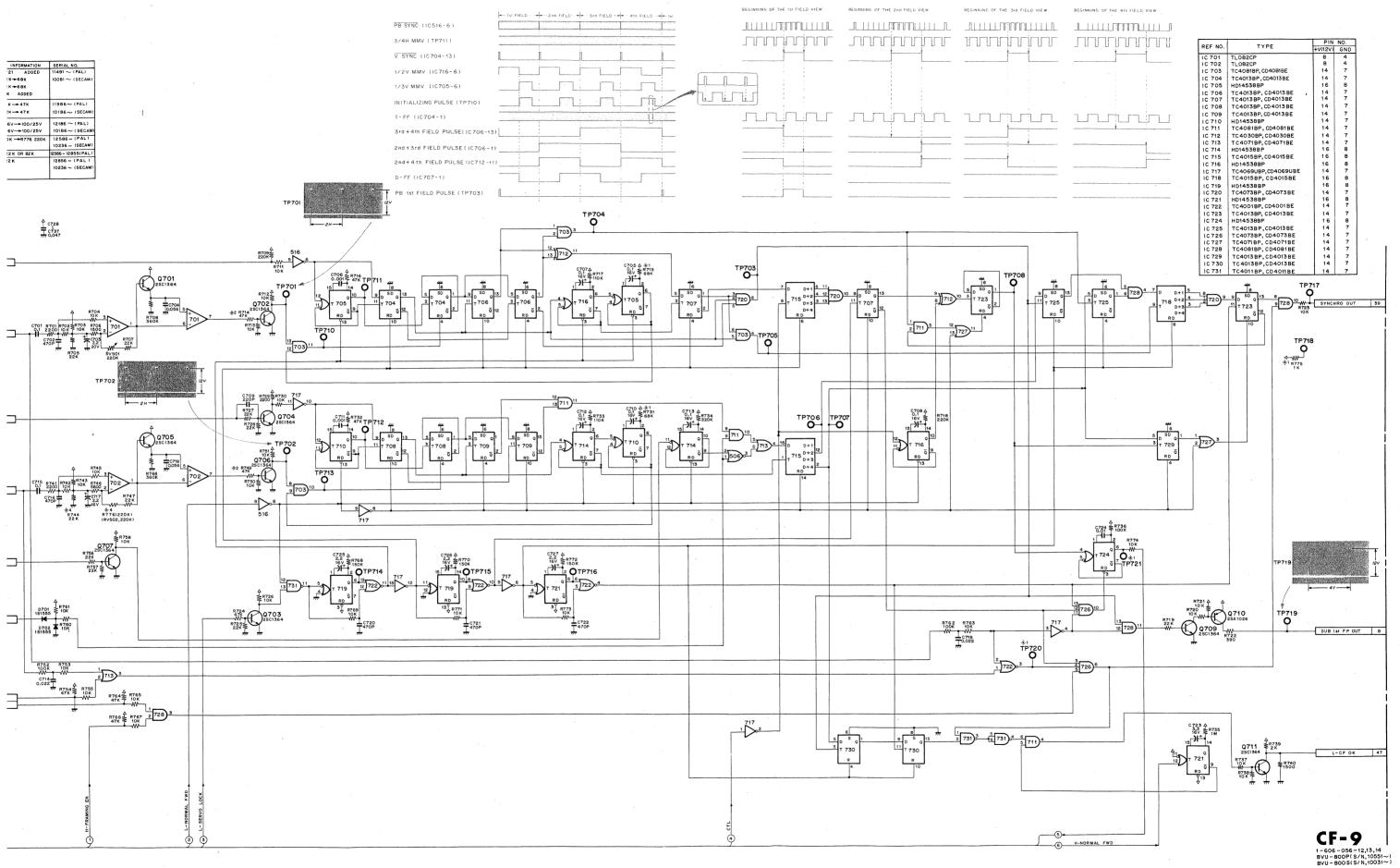


SER. NO. 11491 and higher (PAL) SER. NO. 10081 and higher (SECAM)



CF-9 (CTL REC PB AMPLIFIER) (COLOR FRAMING)





RS-3 (REEL SER

17-58

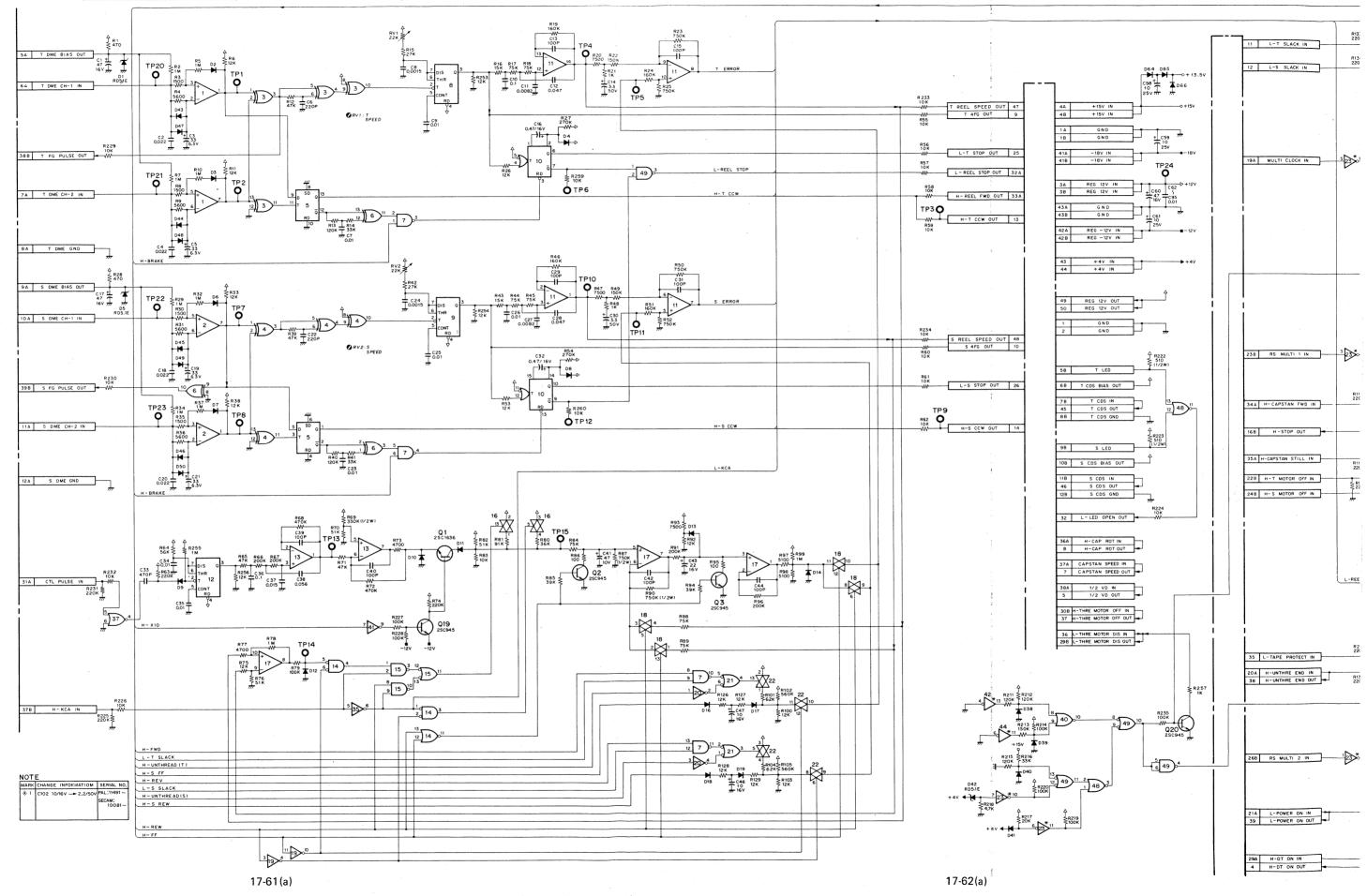
17-57

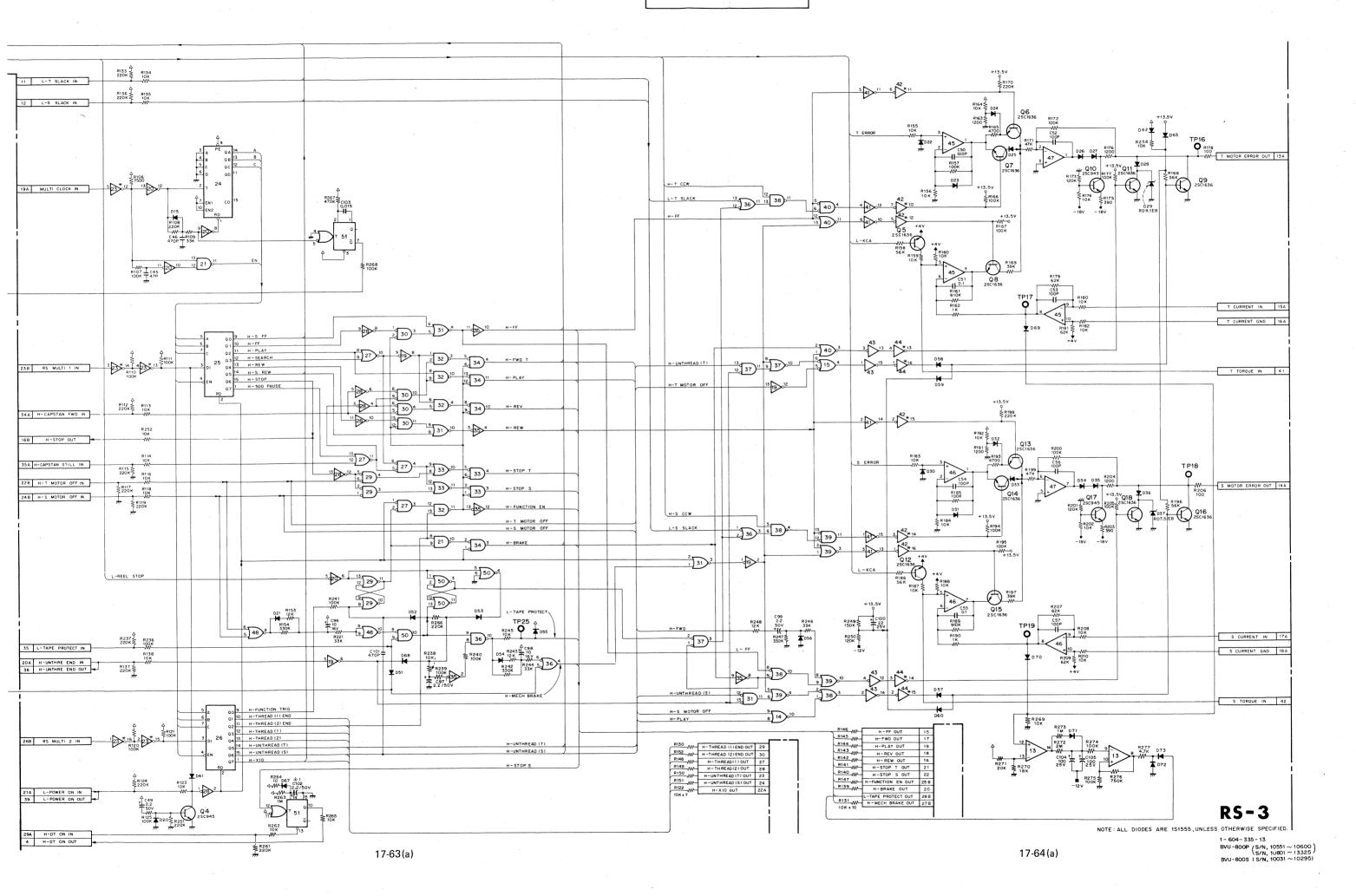
RS-3 (REEL SERVO) SER. NO. 10801 and higher

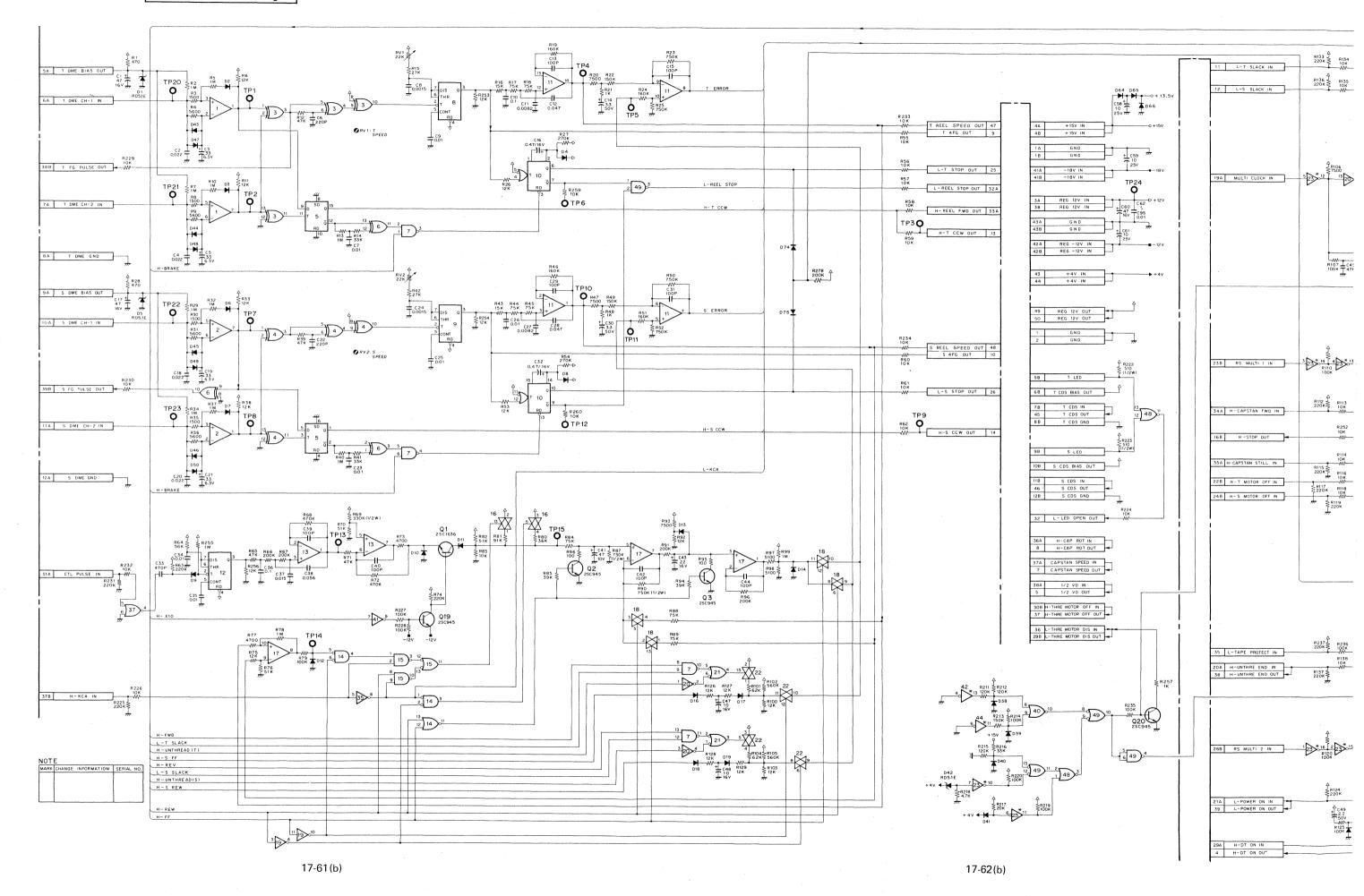
A B		D	E	F	G	Н	<u> </u>
R163 O R164 C51	R256 R66 C38 R2550-W-0 0-W-0 0 0-III-0 R630-W-0 0-III-0 R630-W-0 0-III-0 R650-W-0 0-III-0	R67 R70 R71 P 0-W-0 0-W-0 0 0 0 11C39 0-W-0 ≥ 7C4C W-0 0-11 CC37 0 0	943 (0) (19a (19a)	D10 D56 R248	0 ¥ €R231 R232	1268 W-O C103 R267	0
D24 0-W-0 0-H-0 0 0-H-0 0-W-0 0-W-0 0-M-0 0-W-0 0-W-0 0-W-0 0-W-0 0 0-W	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	01 02 03 04 05 06 07 8275	0 19 W	<i>"</i> 6555555		VI 92 93 94 95 96 97	<u>Р</u> В
1C45 T Y V236 T T T T T T T T T T T T T T T T T T T	069 R64 68 67 66 65 0 R271 ₹	TINITIA R27	76 R277	(1		R263 C102 0-M-0	0-W-08261
5 Q6 Q7 Q RIBI Q Q Q Q Q RI79 Ø 2 Ø 2 ₹ \$ Q H Q C S 3	0-M-0 0-M-0 0-M-0 0 0 0 0 0 0 0 0 0 0 0	R272 0-W-0 071 0104			0-14-0 0-W1-0 0-0 0-W1-0 0-0 0-W1-0 0-W1-0	R225 R239 O ₩ OD53 O W O O O (OC	9-W-0R265 9-W-0R265
D250 14 0 05 08 09 01 05 09 05 05 05 05 05 05 05 05 05 05 05 05 05	Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q	9 9 9 9 9 9 9 C41	P P P P P P P	of Table 1	9 9 9 9 9 9) 1035		•
0-W-0 \$ R159 OR167 O-W	R249 16 15 14 13 12 11 10 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6 15 14 13 12 17 10 8	6 6 6 6 6 6 14 13 12 11 10 9 8	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	\$ 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	C95 0-W-0R237
010 0-W-0 0-W-0	059 059 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 3 4 5 5 5		and have a second	9131 W 0 0 0 0 0 0 0 0	Manuscripton and State of Stat	O-W-0R236 O- I∢ -0D52 9C88
0 H 50 W 0 W 0 R 173	1C43 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1C16	3) IC15 0 5 5 6 5 5 5 5 14 13 12 11 10 9 8	1014 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5) IC31 5 5 3 6 5 6 5) IC34	Ţ O TP25
TP189 IC47 + 668 V	1043 10 10 10 10 10 10 10 1	0-W0 R850-W-0R94 36 Q2 9 Q3 9 0- 0 7 0 0 7 0	R89 R88 -W-0 0-W-0	R138 O-W-O Q		c980-1(-0 R2440-W-0	0-W-0R245 0-W-0R243 0- I 0D54
5	Y 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0-W-0 0-W-0 C91 R87 R95 0 D	14 Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$\tag{\frac{2}{3}} \frac{2}{3} \frac	0 6 3 6 5 6 7 1	7 2 3 4 5 6 7 9 9 9 9 9 9 9 1 1 1 1 1 2 3	0-W-0R242 0 T C87
0 0 1035 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	566555445356251151059 0-M	9 C41 R92 6 R98 6 R98 C C C C C C C C C C C C C C C C C C C	4 13 12 11 10 9 8	6 3 6 3 5 3 5 14 13 12 11 10 9 8	3 5 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6 6 6 6 6 6 6 14 13 12 11 10 9 8	ਹੈ ^{c87} ੦ੂਜ(ਦ੦c47
18 0 14 33 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R410-W-0 0-W-0 R400-W-0 0-H-039 T 0-W 0-H	R96 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	93 0-W-0 1 2 3 4 5 6 7	1 2 3 4 5 6 7	L. Paragranda S. S. S. T	1234567	0-M-0R127
P195 R187 P186	2 9 2 9 9 9 9 5 5 5 5 5 5 5 5 5 5 5 5 5	(() 1C22 RIO:	22 <u>92999</u> 9 / 1c7 \$ (0 0 0 0 0 0 0 1 1032 5 0 0 0 0 0 0 14 5 2 1 10 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<u>₹</u> c86
9 9R198 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0-M-0RIA R27 0-M-0	0140130120110100908	01401301201101009.08 R101 R104 2 0-W-0 0-W-0 0-W-0R102	0 0 0 0 0 0 0 0 0 14 13 12 11 10 9 8 0-W-0 R105	6 6 6 6 6 6 14 3 12 11 10 9 8	6 6 6 6 6 6 6 6 14 13 12 11 10 9 8 0 0 0 0 0 0 0 0 114 0 0 0 0 0 0 0 0 0 0	0-W-0R126 0- ∢ -0D16
	O 9 H-0c7 0 H-0 0	C16 0-W-0R76 R79 +1(-9 0-W-0R76 R79 1-2-3-4-5-6-7-8 TP 9-9-9-9-9-1-9-9	0-M-0R102 0-M-0R260 12-1 2 3 4 5 6 7		1 2 3 4 5 6 7	1 6 3 4 5 5 7	0-W-0R129 0-W-0R113
9 91929394959697 9 T S IC46 T T C66	1C5 0749 C	01601501401301201110009	75 [IC20] 6146136126116105968	CONDITION OF CHARLES AND ADDRESS.	[IC30]	1 C28	6
O 61451351251 131059 58 R2100-M-6 0-M-820 0-M-8208 RV2 0 0-M-0 0-II-0C57	TP2 0-M-0 R12 R54	o _∓ 1(−o o-w _− o₂ o-	C45 015 C46 	R219	0-W-0R217	061	0-W-0R112 0-14-0D19 0-14-0C48
R209 C26 C C10 C 11 C C10 C 12 C C10 C 12 C C10 C C10	9 8 9 9 5 5 5 9cras		40 9 9 9 9 9 9	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 6 9 4 5 6 7 B	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	<u>.</u>
- 109 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108 - 108	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5 5 5 5 5 5 6 6 8 8253	6 6 6 6 6 6 6 14 13 12 11 10 9 8 9 9 9	61651501451351251151059	61601501461361261161069	6 6 6 6 6 6 16 15 14 13 12 11 10	7 7 0018
20-M-0 0-M-0 0-M-0R16 R63 0-M-0 0-M-0R16 R63 0-M-0 0-M-0R17 R63 0-M-0 0-M-0R17 R64 R67 0-M-0C9	TP11 TP1 02 047	R216	R215 020 3 123	R120 R121 R111	R135 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	R252	9-W-0R128
50-H-0 B44 R87 0-H-0C9 40-W-0 C28 R88 0-W-0R-0 0 H-0 R85 0-W-0R-0 0 C27 H-0 R50 0 50 0-H-0C	0 0 043 0 H 0 1P8 TP 00 H 0 2 0 TP8 TP 49 0 0 W 5 1	0-14-0 050 0 0 0-40-0 4 - \$R34 C21 - 6 6 0-16-0 0 R359 9R36	2 3 4 5 6 7 0 9 9 9 9 9 9 1048	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R152 0-W-0 R148 R56 R150 R141 R144 R145 R146	9 W 9 4 5 6 7 9 9 9 9 9 9 7 	\$
0 - H-063	0 +1 R3Q QR4 Q-W-5 150 C71 10 20 30 40 \$ \$ C72 0 31	92 2394	6461361261161069 68 OTP23 R224 R117 O-W-0	61461361261101069 68		016615614613612611610	69
Q1 Q2 Q3 Q4 Q5 Q6 Q7	68 57 56 65 \$ \$ 60	5678685 06 € €	TP22 \$ 0-W-ORING	R234 0-W-09 0-W-0 R58 R118 0-W-08	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	R229 0- 0 0 0-W-0 0-4-0020	(o)
C130-II-O O O O O-II-O	""° o+1€° 9 ° o V	38	C96 0-W-0 0 0 0-1(-0 0-14-02) \$ \$R22 0-W-0 153(-0) 0-W-0 R230	047 043 039 0	0 35 (031 (024/021 017 (0	0-W-0 0-W-0R129 855 13 09 05 01	R251 O-W-O
9-10-0 0 00 0 0-10-0 0 0 0 0 0 0 0 0 0 0	0-H0 R73	0-M-0R31 0-M-0D45	R222 R223	048 044 040 036	032 028 025 022 018 014 033 029 026 023 019 015 034 030 027 0 020 016	911 97 93 TP3	E2 O
0+1(-0 E1 0+1(-0		999999		Production Comments of the Com			6
		11/9/9	Section of the second of the s	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
	- COMPONENT SIDE - SOLDERING SIDE	3 4 5 6 7 8 9 10 11	12 13 14 15 16 17 18 19 20	21 22 23 24 25 26 27 28 29 30	31 32 33 34 35 36 37 38 39 40 41	RS-	
						1-604-335- BVU-800 BVU-800P	
	17-59			•		BVU-800\$	\(\s\/\n.10801 \sime\) \((\s\/\n.10031 \sime\) \((\s\/\n.10001 \sime\)
	17-59						[S/N.90001~]

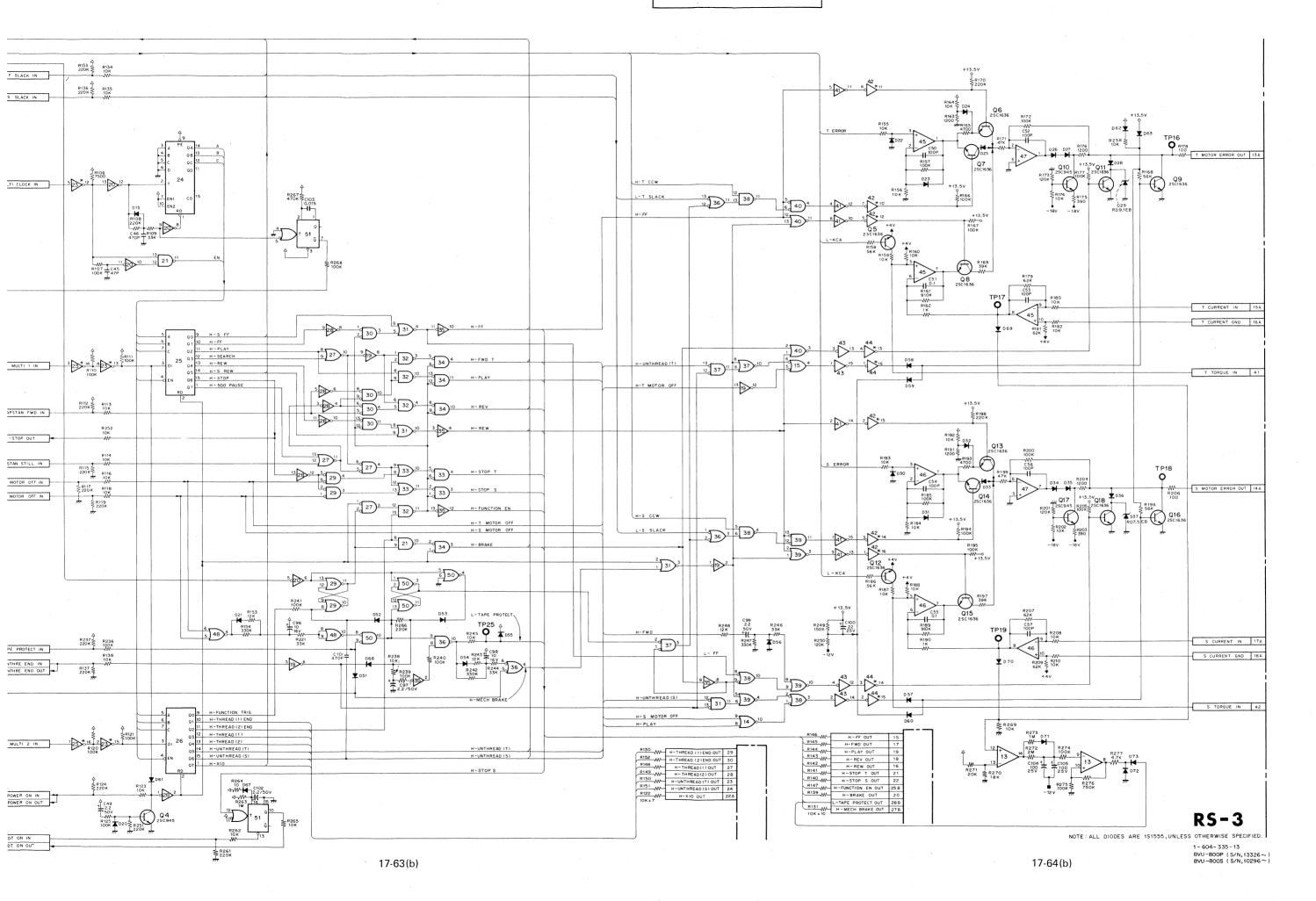
- 8		-									
-		C - 7		A - 7	PFF.NO.	TYPE			PIN NO).	
: - 7		D - 7	RV2	A - 6	FFF.NO.	ITPE	+V(+13,5V)	+V(+12V)	GND	-V(-12V)	-V(-18
- 8	IC3 (C - 6			IC 1	NJM2903D		8	4		 • • • • • • • • • • • • • • • • • • •
- 5	IC4	0 - 6	TP1	C - 7	2			8	1		
- 8	IC5 C	C - 5	TP2	C - 6	3	NJM2903D			4		1
8 - (IC6 C	C - 5	TP3	H - 8		TC4030BP,CD4030BE		14	7		1
- 7		F - 5	TP4	A - 8	4	TC4030BP,CD4030BE		14	7		1
- 6		3 - 6	TP5	A - 8	5	TC4013BP,CD4013BE		14	7		1
- 1		A - 6		E - 6	6	TC4030BP, CD4030BE		14	7		
-1		0 - 5		D - 7	7	TC 4011BP, CD 4011BE		14	7		l
			TP8	C - 7	8						
. 3		3 · 8	TP9	H - 7		NE555N, M51847P		8	1		
-5		3 - 1		B - 5	9	NE555N,M51841P		8	1		
- 4		0 - 1			10	MC14538BCP, HD14538BP		16	8		
- 4		- 3		B - 7	- 11	μPC324C, LM324		4		11	
- 6		3		E - 5	12	NE555N, M51841P		8	1		
- 5		0 - 3		E - 1	-13	µРС324C,LM324		4	'		
- 4) - 5		D - 5	14					11	
- 6	IC18 E	- 4		E - 3	1	TC4001BP,CD4001BE		14	7		
- 6	IC19 F	- 4	TP16	A - 2	15	TC4011BP,CD4011BE		14	7		
l - 8	IC20 E	- 5	TP17	B - 1	16	TC4066BP,CD4066BE		14	. 7		
- 8	IC21 F	- 5	TP18	A - 3	17	µРС324С,LM324		4		11	-
- 1	IC22 E	- 5	TP19	A - 6	18	TC4066BP,CD4066BE		14	7		
- 1	IC23 F	- 6	TP20	C - 8	19	TC4069BP,CD4069BE		14	7		
- 1		3 - 6	TP21	C -8	20						
- 2		1 - 6		E -8		TC4069BP,CD4069BE		14	- 7		
. 3		1 - 7		E - 7	21	TC 4011BP, CD 4011BE		14	7		
- 3		1 - 5	TP24		22	TC4066BP, CD4066BE		14	7		
- 3			TP25		23	M54517P			8		
-3		1 - 5	1123	1 -3	24	TC40161BP,CD40161BE		16	8		
		- 7			25	TC4099BP, CD4099BE		16	8		
- 5		3 - 5			26				-		
-5		3 - 3				TC4099 BP, CD4099BE		16	8		
- 4	IC32 (3 - 5			27	TC4001BP,CD4001BE		14	. 7		
- 4	IC33 F	1 - 4			28	TC4069BP,CD4069BE	Ĭ.	14	7		
- 4	IC34 F	1 - 3			29	TC4001BP,CD4001BE		14	7		
- 4	IC35 C	3 - 2			30	TC4001BP,CD4001BE		14	7		İ
- 4	1C36 C	3 - 4			31	TC4001BP, CD4001BE		14	7		
- 4	IC37 C	3 - 1			32	TC4011BP, CD4011BE		14	7		
- 2	IC38 F	. 2			33						
- 4		1				TC4001BP, CD4001BE		14	. 7		
- 6		· 2			34	TC4001BP,CD4001BE		14	7		
- 7		. 2			35	TC4069BP, CD4069BE		14	7		
- 7		. 2			36	TC4011BP,CD4011BE	-	14	7		
- 7		. 3			37	TC4001BP,CD4001BE		14	7		
- 8		4			38	TC4011BP, CD4011BE		14	7		
- 8		4 3 - 1			39						
- 7						TC4001 BP, CD4001 BE		14	7		
-7		A - 6			40	TC4001BP, CD4001BE	-	14	7		
- 8		3 - 3			41	TC5067BP		16	8		
		- 7			42	M54519P				8	
- 8		- 6			43	TC5067BP		16	8		
- 7	IC50 H	1 - 2			44	M54519P		1			8
- 2				l	45	μPC324C, LM324		4		11	٠
- 3		- 1			46					11	
- 2		- 3		- 1		µРС324С, LM324		4		11	
- 3		- 3			47	μPC4558C,RC4558	8				4
- 3	Q4 H	1 - 8			48	TC4001BP,CD4001BE	.	14	7		
- 1	Q5 B	- 2			49	TC4011BP, CD4011BE		14	7		
- 4	Q6 A	2			50	TC4001BP, CD4001BE	- 1	14	7		
- 3	Q7 A	2		1	51	MC14538BCP		16	8		
-3 ~	Q8 B	- 2		ı		1					
- 3		- 2									
- 6		-3									
- 5		-3									
- 4		-4									
- 8		-4									
-7											
- 5		-4									
-1		-5									
- 2		- 4									
-1		- 4									
- 5		4									
		- 1									
-2	Q20 E	- 7				•					
-1											

RS-3 (REEL SERVO) SER. NO. 10801 to 13325



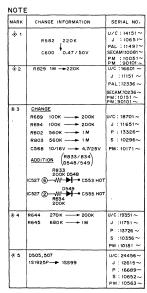


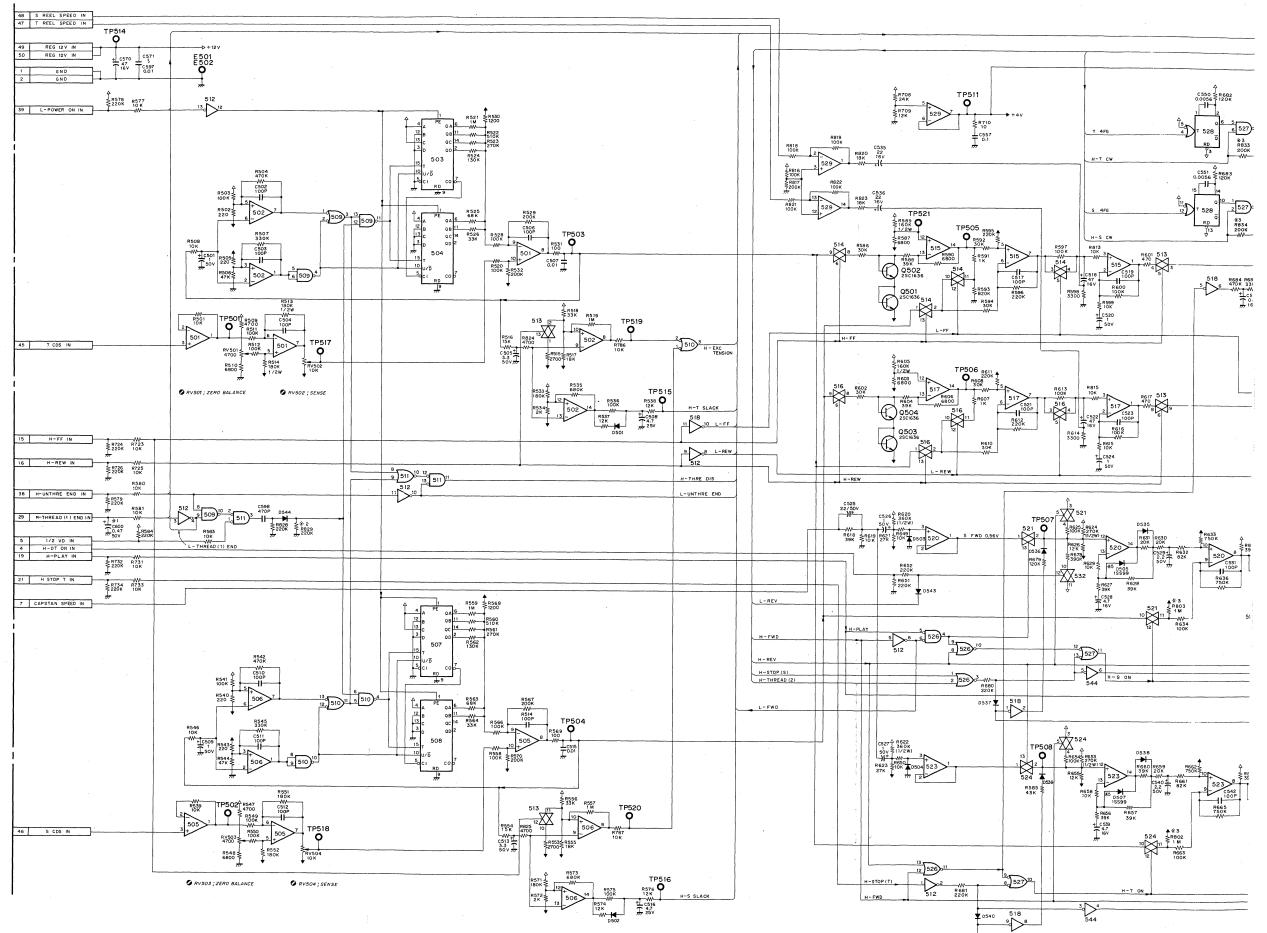


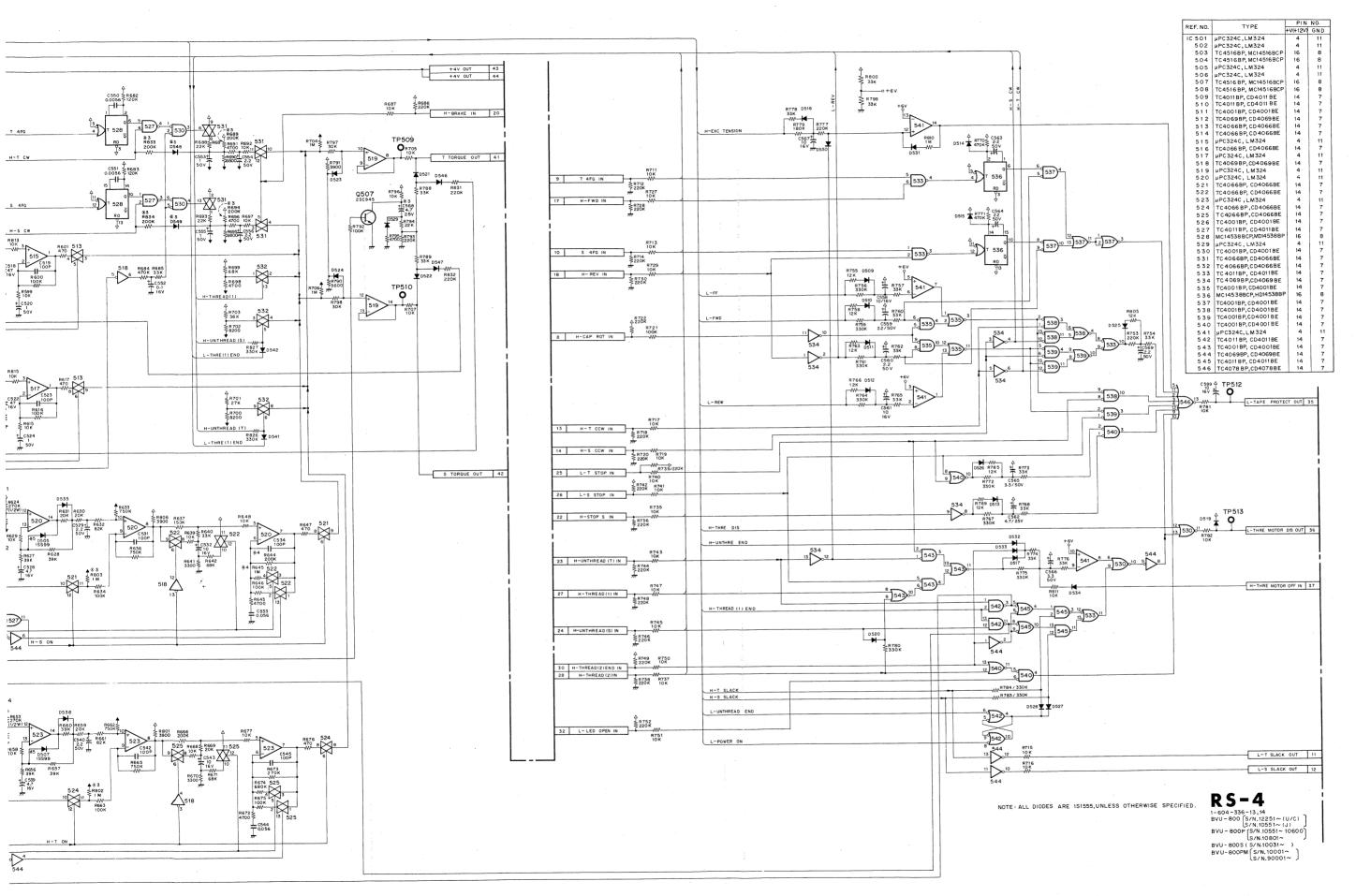


ns-4 (TAPE TENSION SERVO)

ER. NO. 10801 and higher

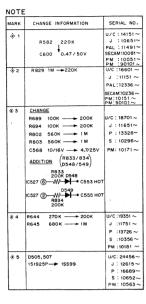


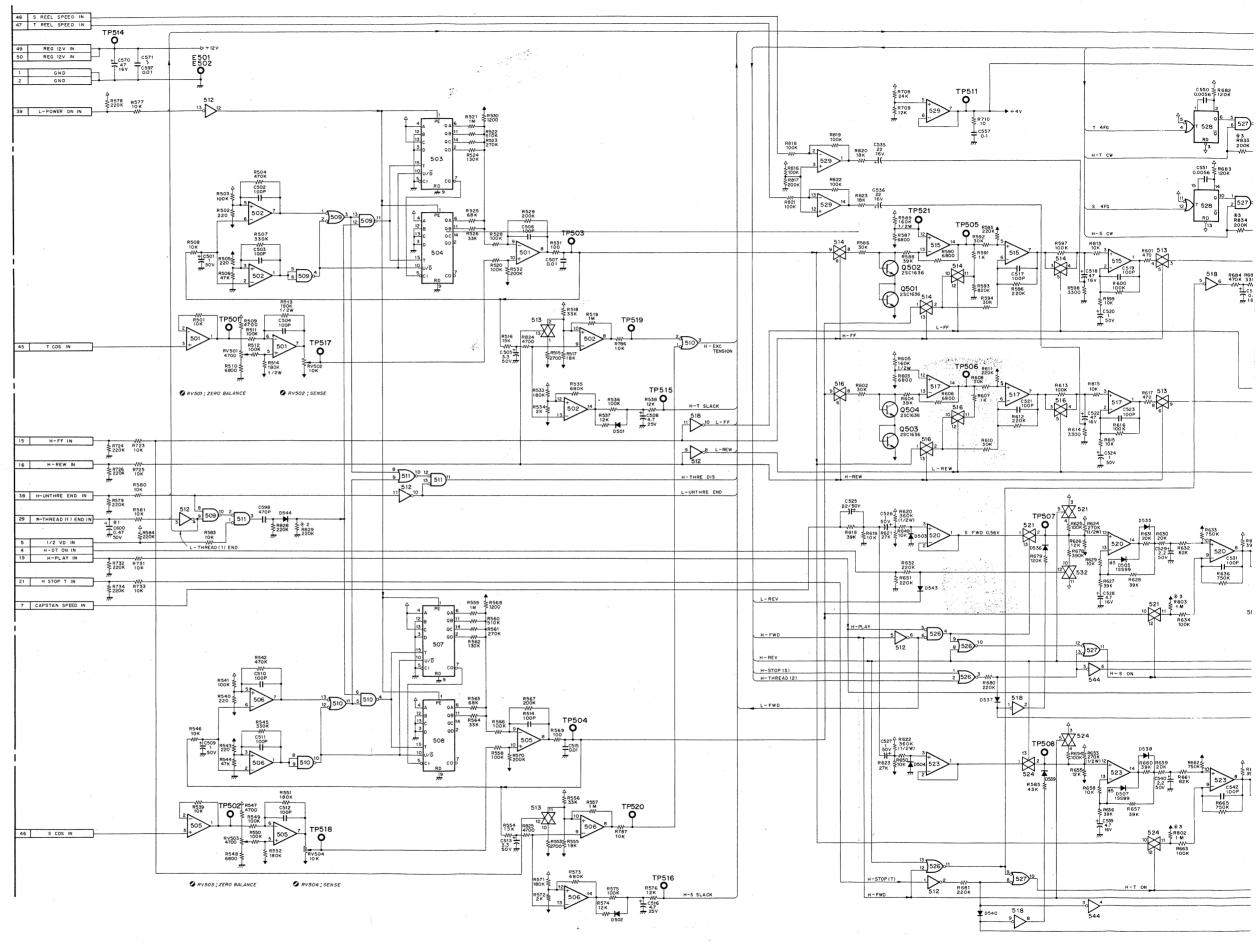


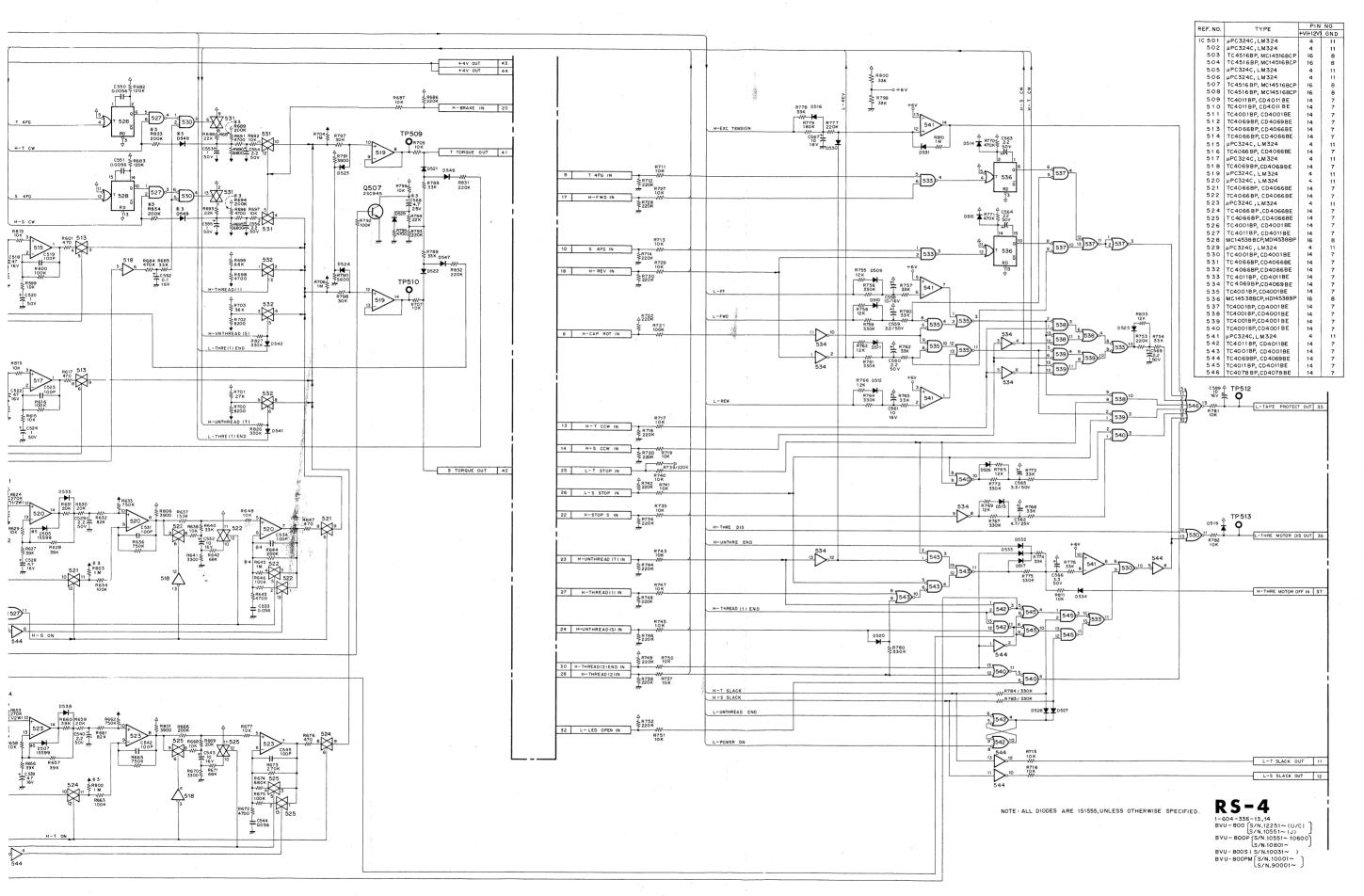


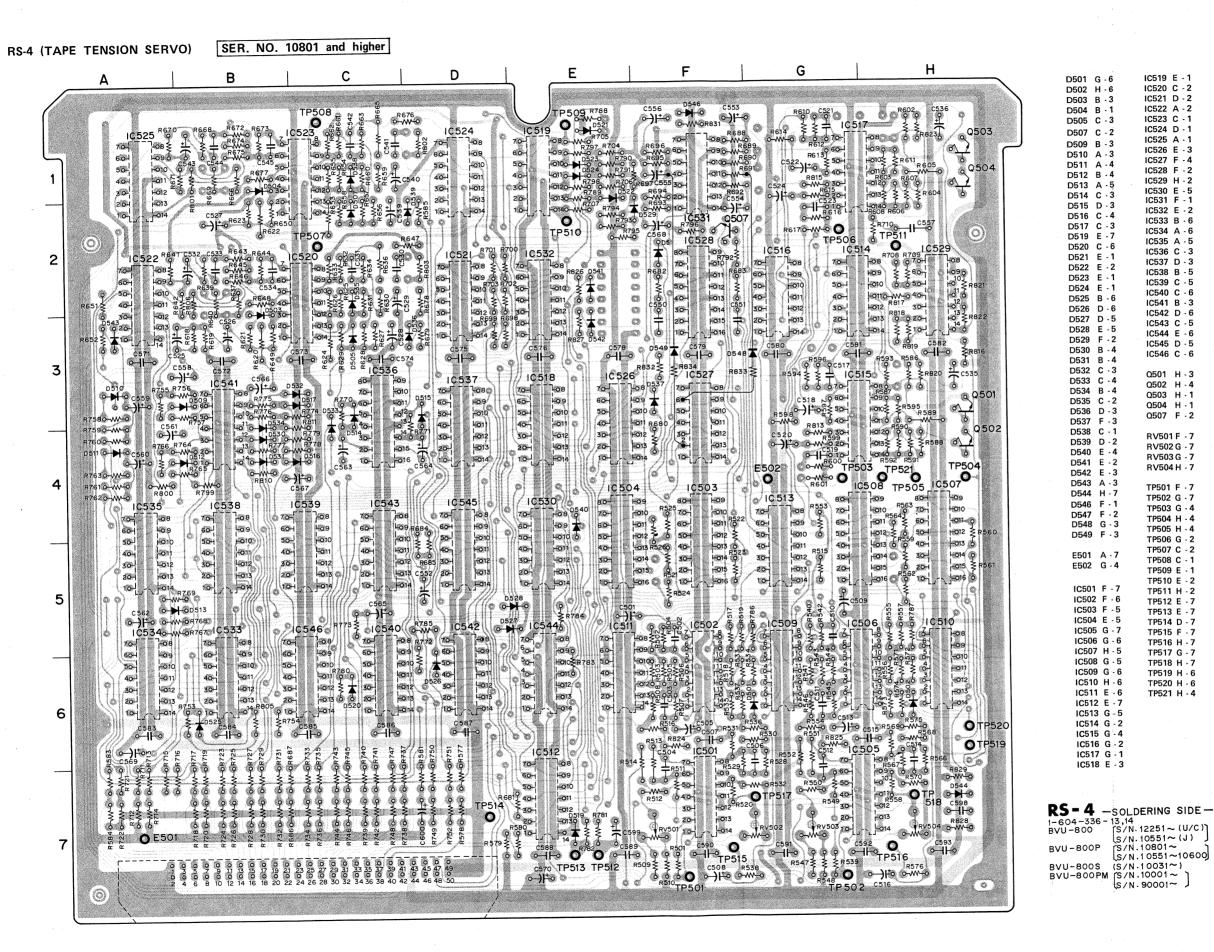
ns-4 (TAPE TENSION SERVO)

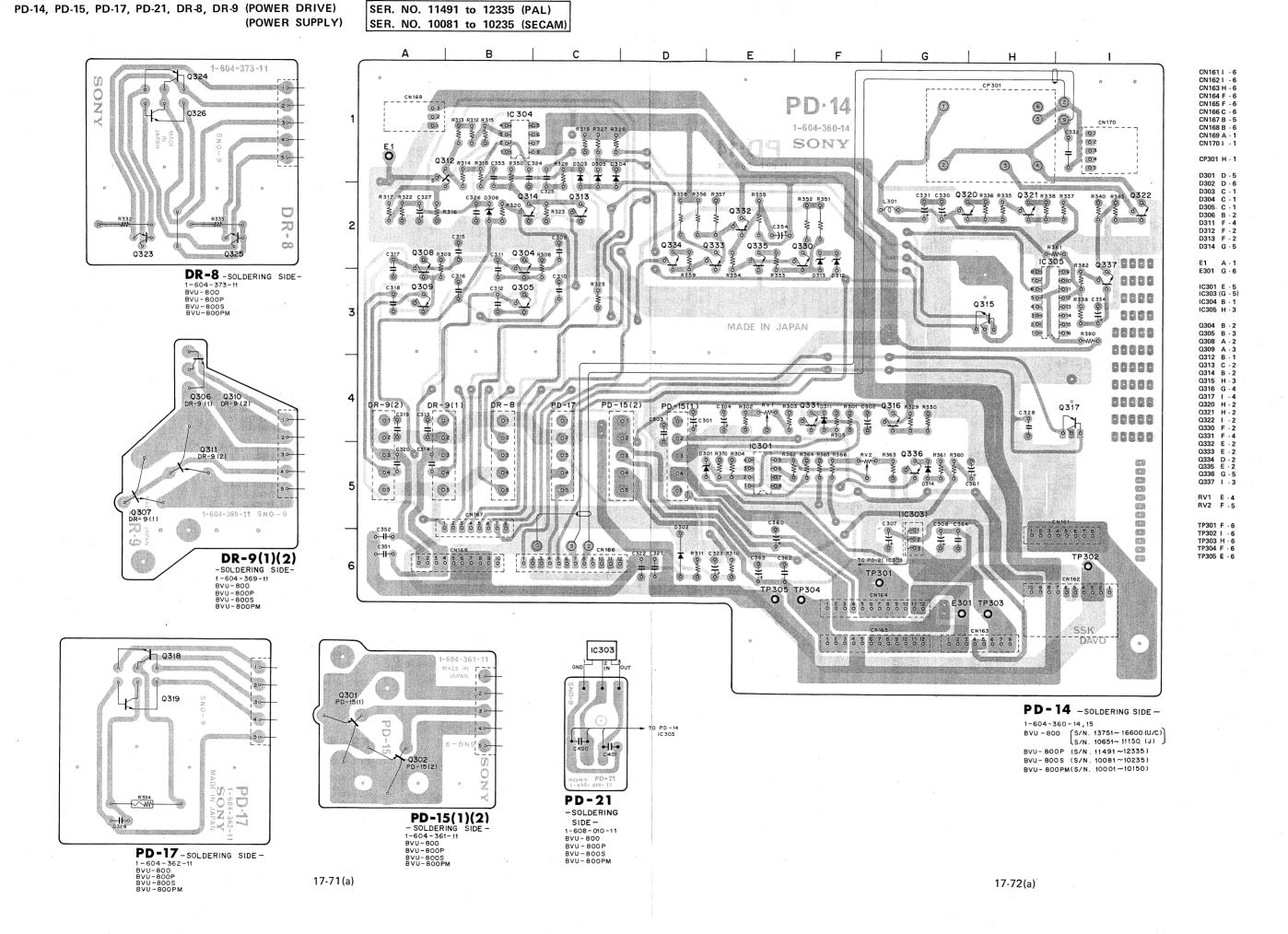
ER. NO. 10801 and higher

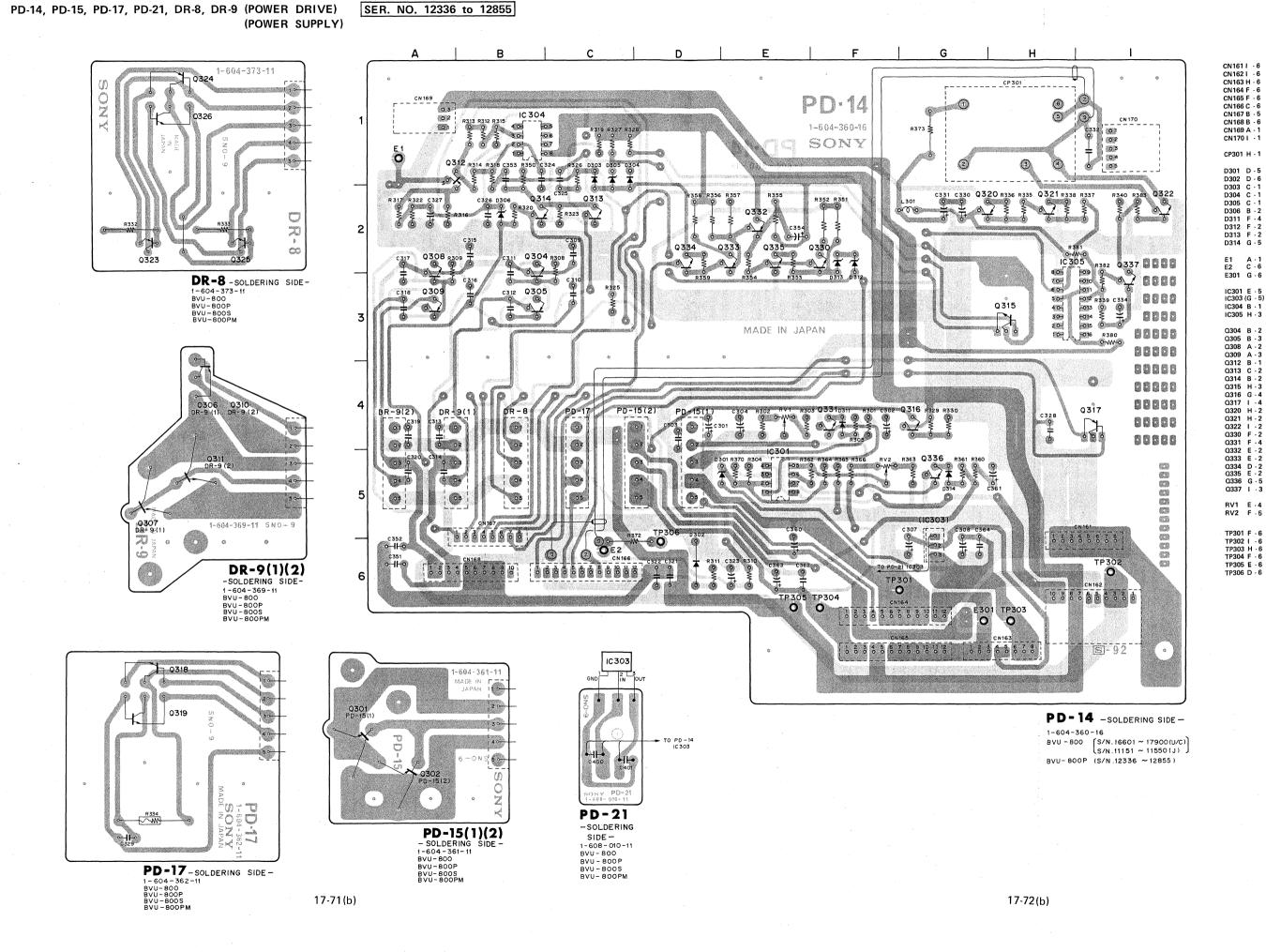


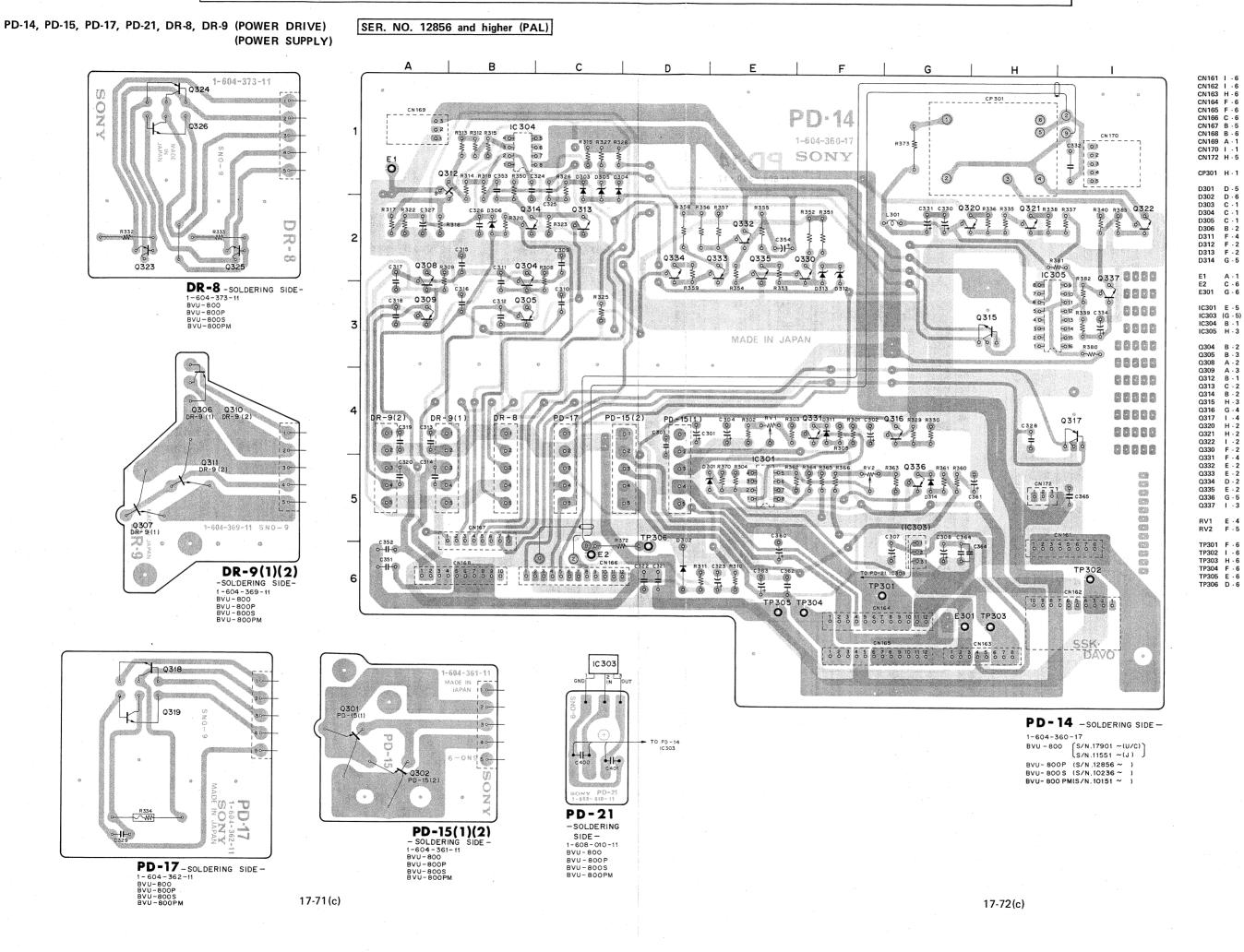


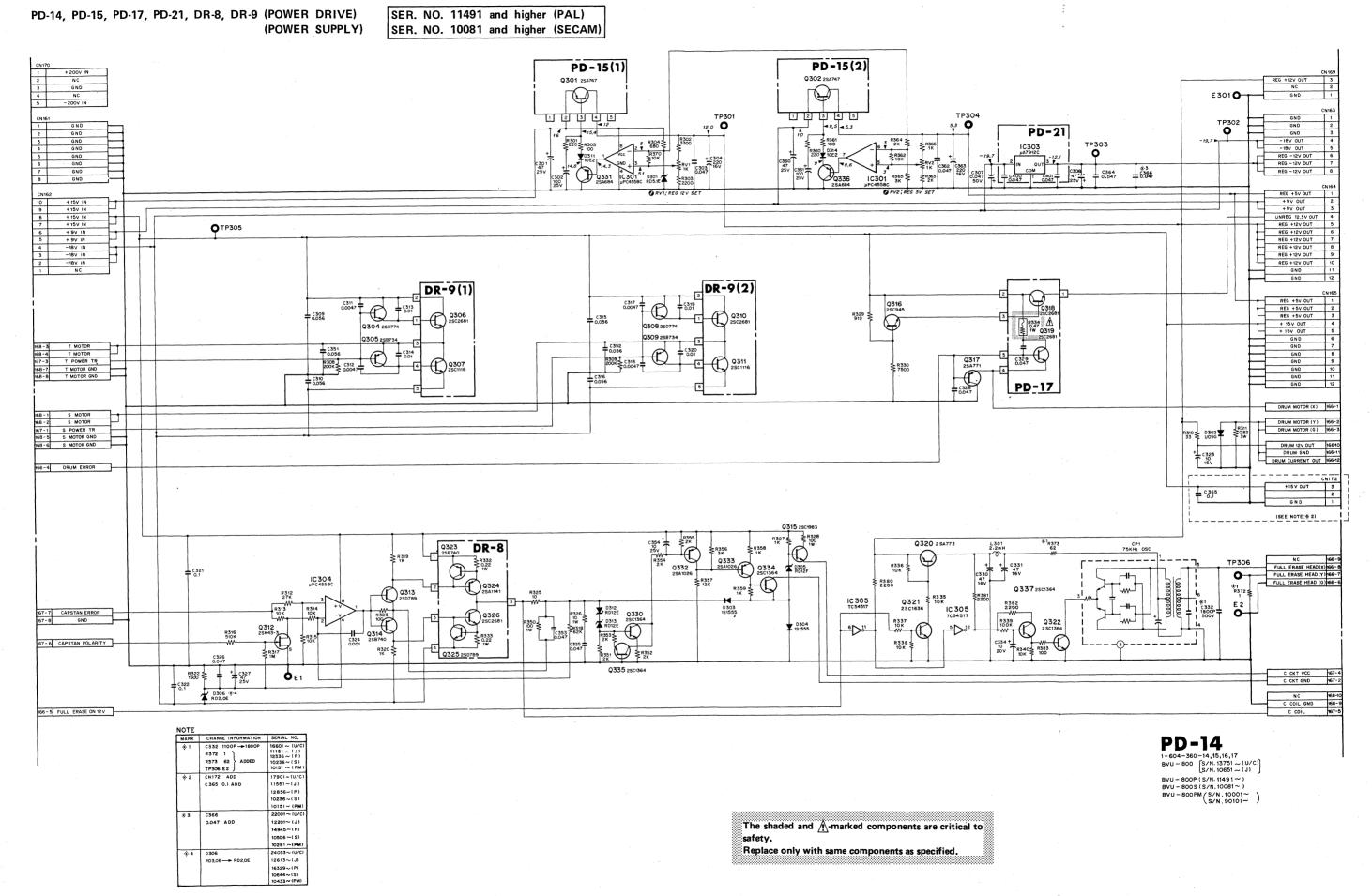




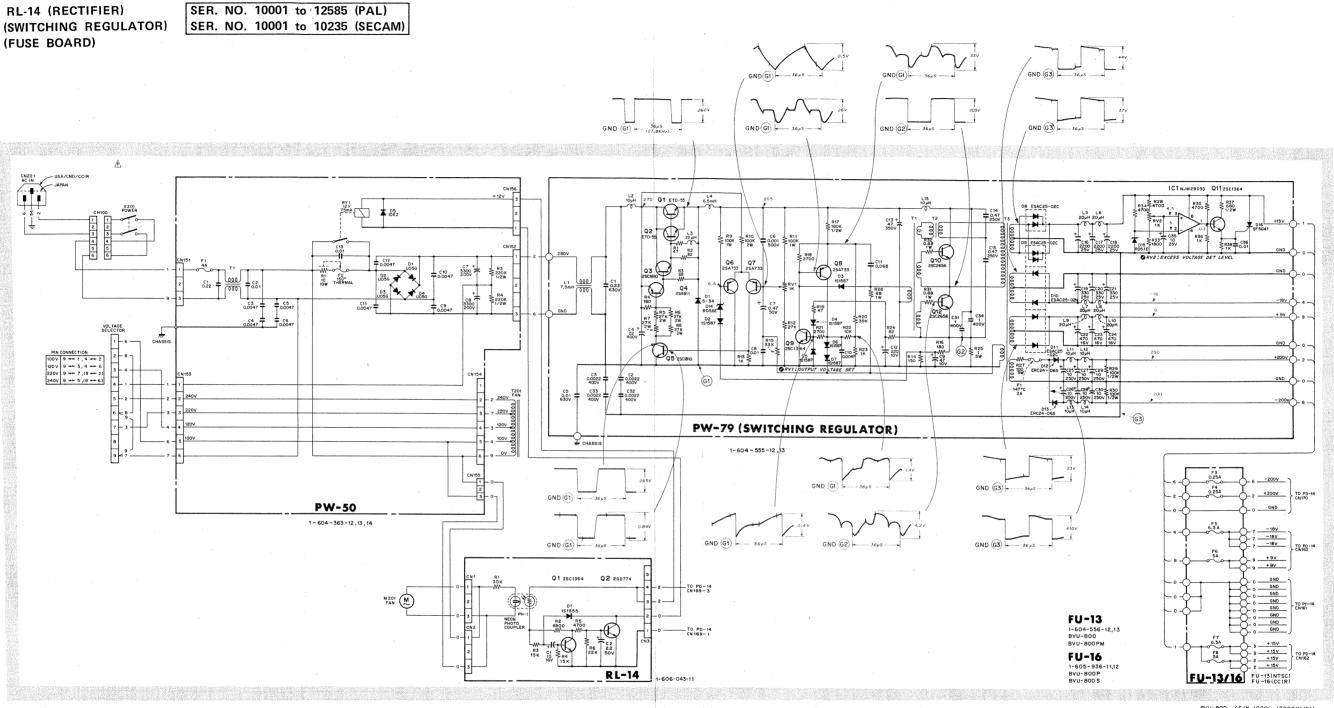








PW-50, RL-14 (RECTIFIER) PW-79 (SWITCHING REGULATOR) FU-16 (FUSE BOARD)



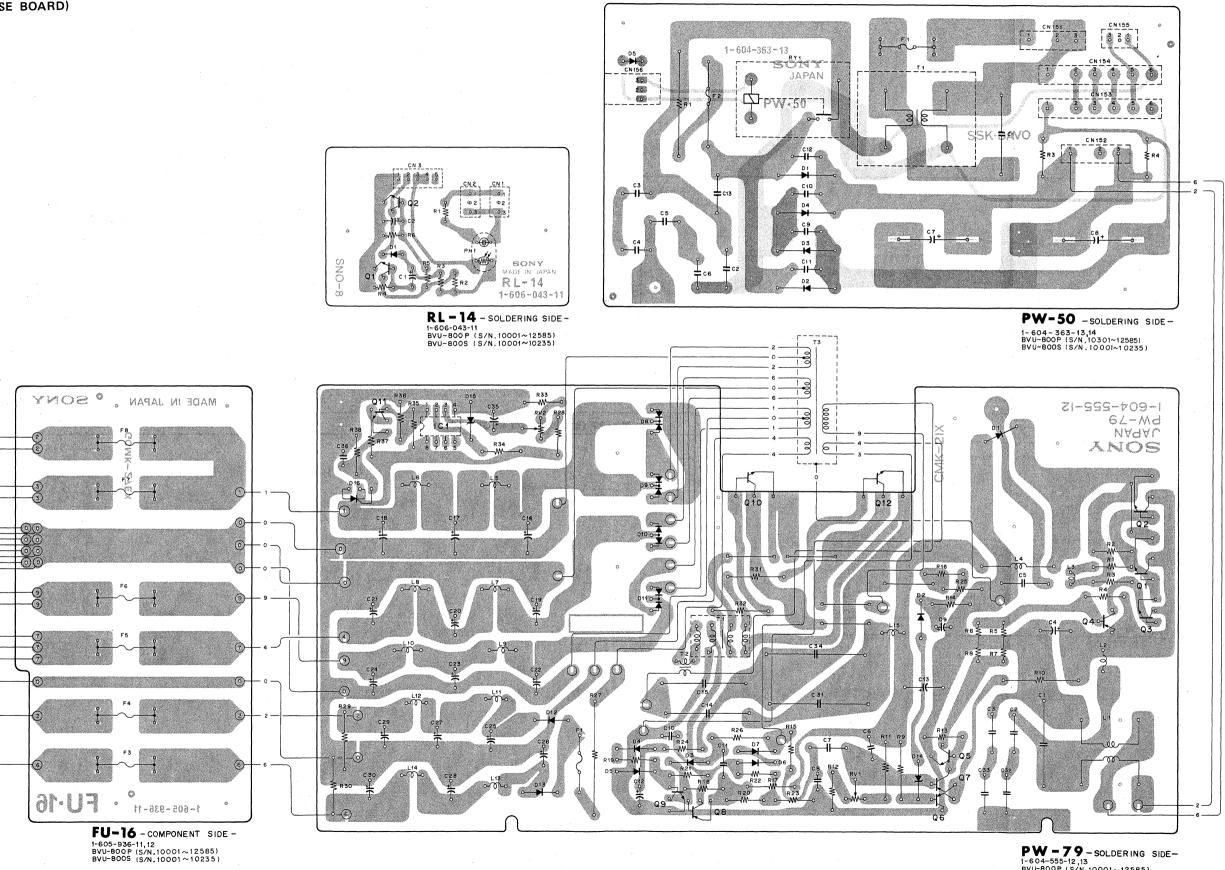
BVU-800 (\$/N.10201~17000(U/C)) \$/N.10101~11300(J)) BVU-800P (\$/N.10001~12585) BVU-800S (\$/N.10001~10235)

The shaded and /in-marked components are critical to

Replace only with same components as specified.

PW-50, RL-14 (RECTIFIER) PW-79 (SWITCHING REGULATOR) FU-16 (FUSE BOARD)

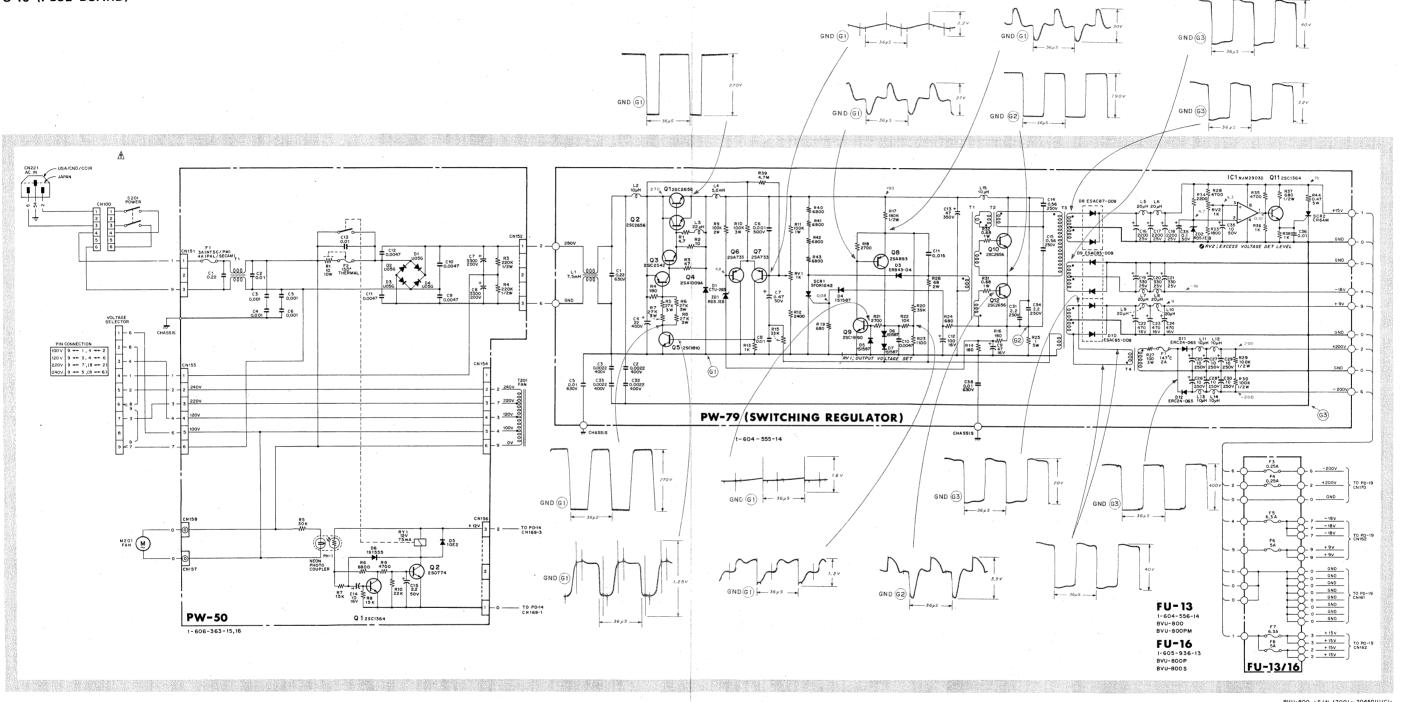
SER. NO. 10001 to 12585 (PAL) SER. NO. 10001 to 10235 (SECAM)



PW - 79 - SOLDERING SIDE-1-604-555-12,13 BVU-800P (5/N.10001~12585) BVU-800S (S/N.10001~10235)

PW-50 (RECTIFIER)
PW-79 (SWITCHING REGULATOR)
FU-16 (FUSE BOARD)

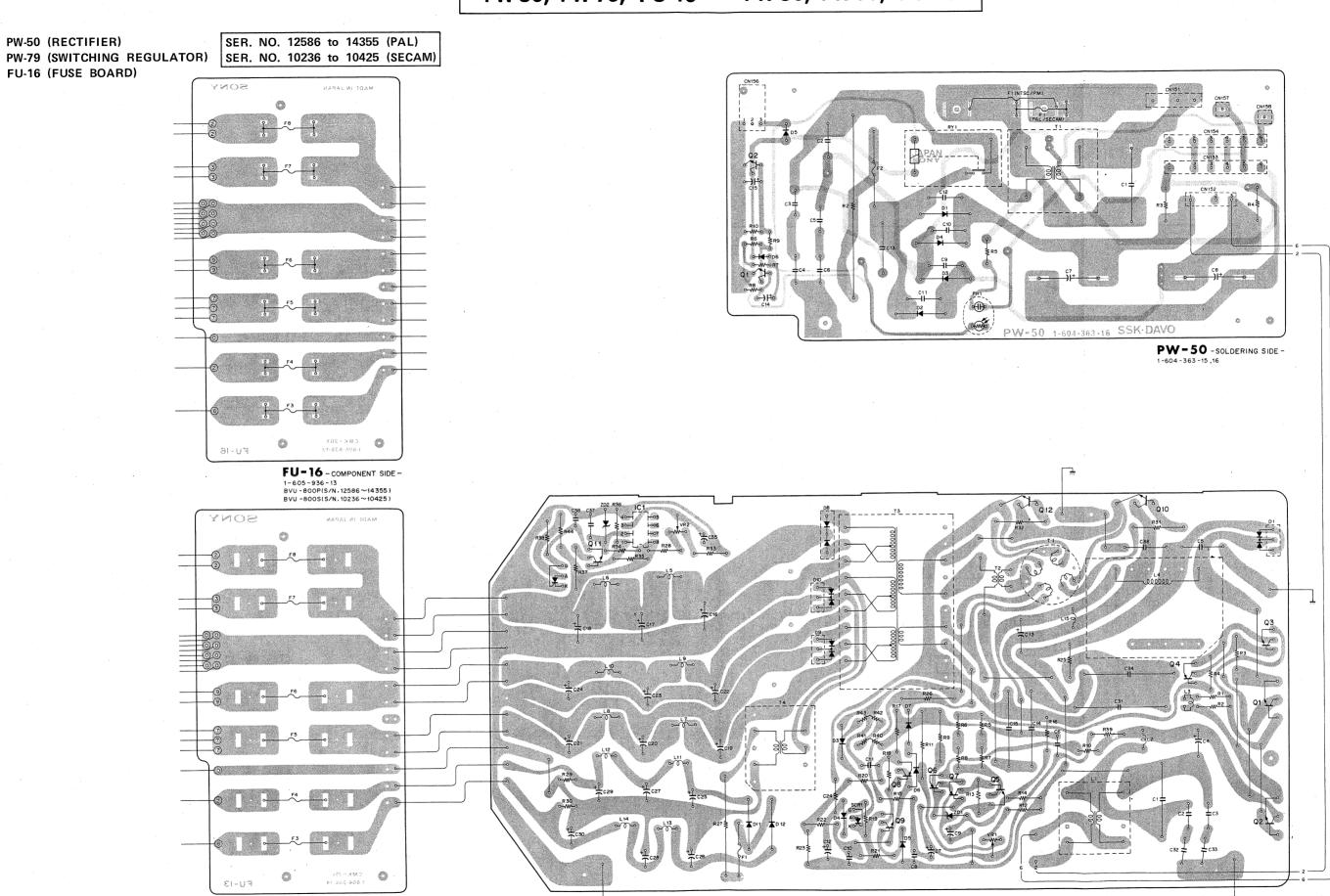
SER. NO. 12586 to 14355 (PAL) SER. NO. 10236 to 10425 (SECAM)



BVU-800 (S/N.17001~204501U S/N.11301~11950 (J BVU-800P (S/N.12586~14355) BVU-800S (S/N.10236~10425) BVU-800PM(S/N.10151~10230)

The shaded and Λ -marked components are critical to safety.

Replace only with same components as specified.



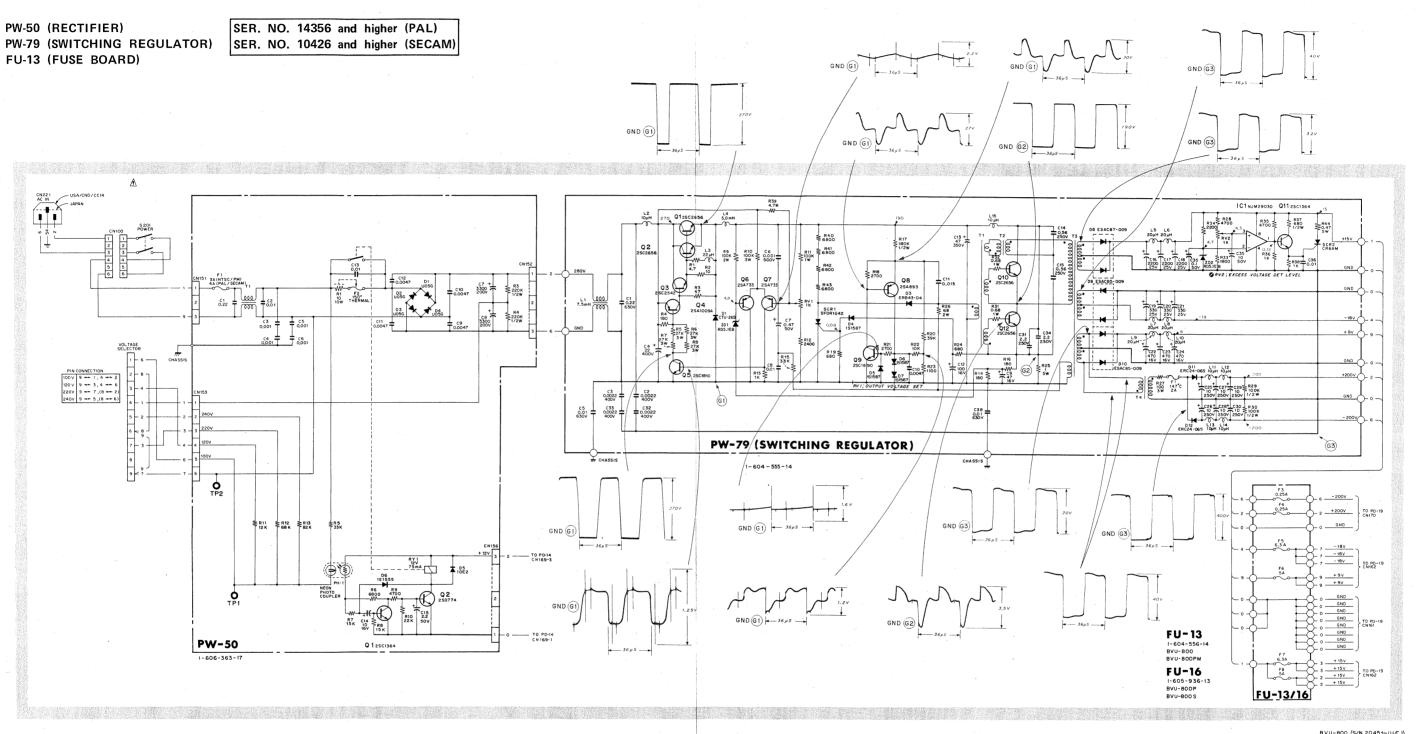
FU-13 - COMPONENT SIDE -

1-604-556-14
BVU-800 (S/N.17001 ~ 20450(U/C) (S/N.11301 ~ 11950(J))
BVU-800PM (S/N.10151 ~ 10230) (S/N.90101~90120)

17-77(b)

17-78(b)

PW-79 -SOLDERING SIDE -



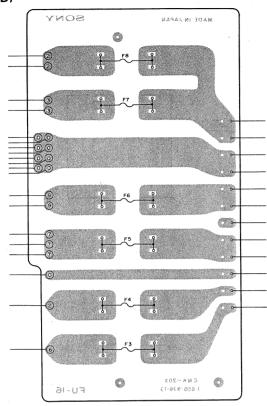
BVU-800 (S/N,20451~(U/C)) (S/N,11951~(J)) BVU-800P(S/N,14356~) BVU-800S(S/N,10426~) BVU-800PM(S/N,10231~)

The shaded and /inarked components are critical to safety.

Replace only with same components as specified.

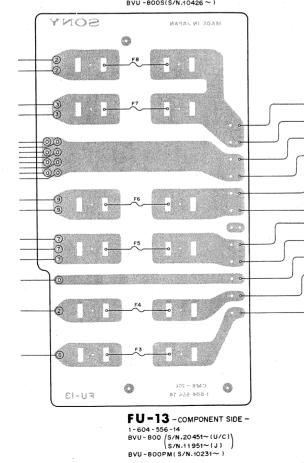
PW-50 (RECTIFIER) PW-79 (SWITCHING REGULATOR) FU-13 (FUSE BOARD)

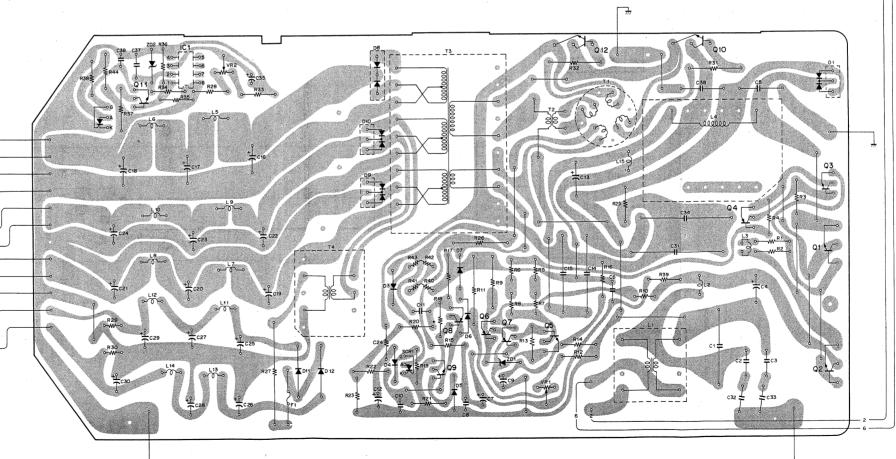
SER. NO. 14356 and higher (PAL) SER. NO. 10426 and higher (SECAM)



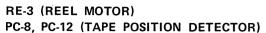
PW-50 1-604-363-17 5-93 PW-50 -SOLDERING SIDE -

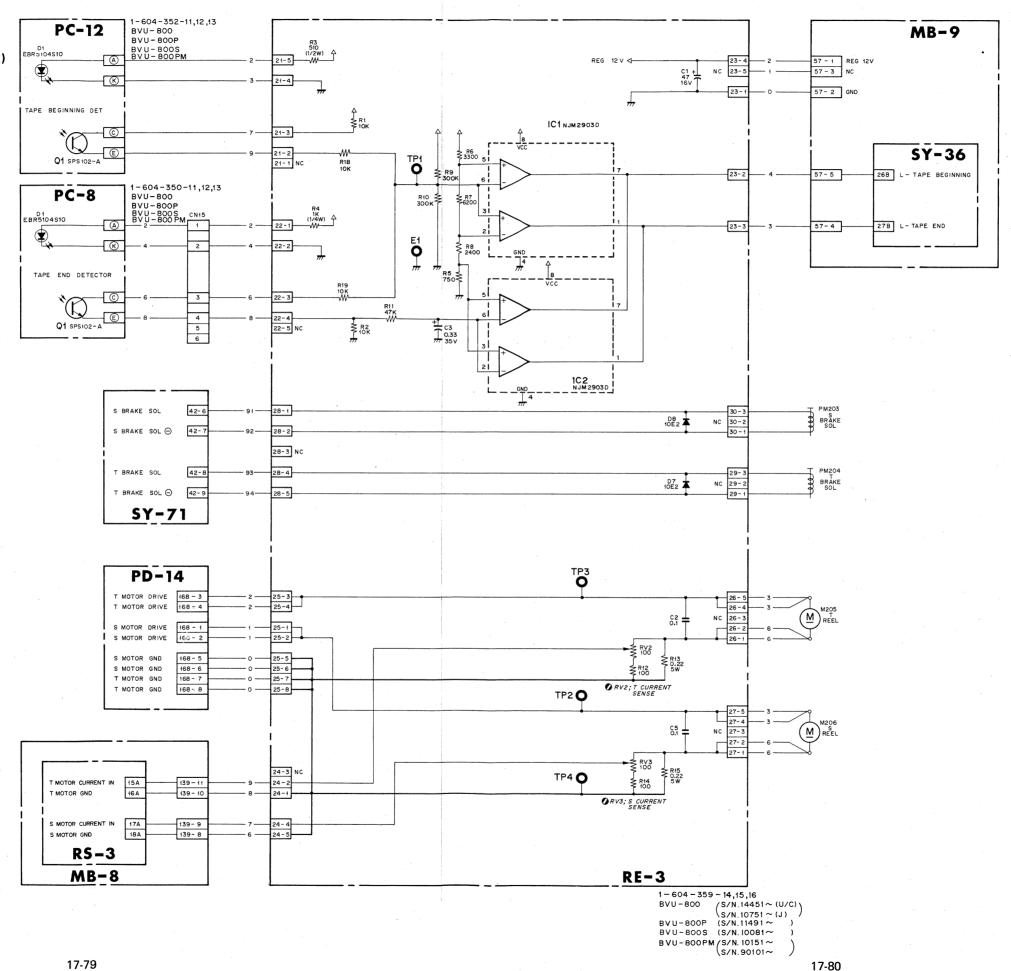
FU-16 - COMPONENT SIDE -1-605-936-13 BVU-800P(S/N.14356~) BVU-800S(S/N.10426~)

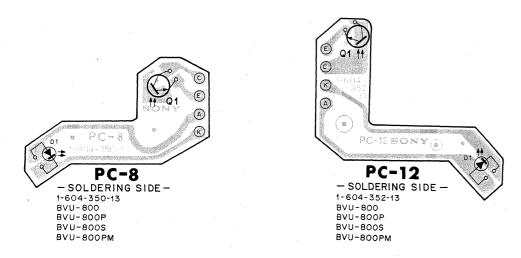


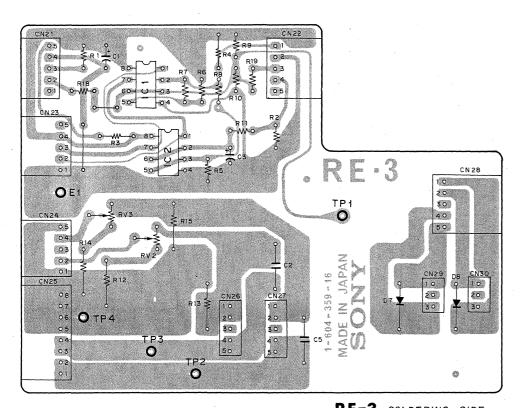


PW-79 - SOLDERING SIDE -



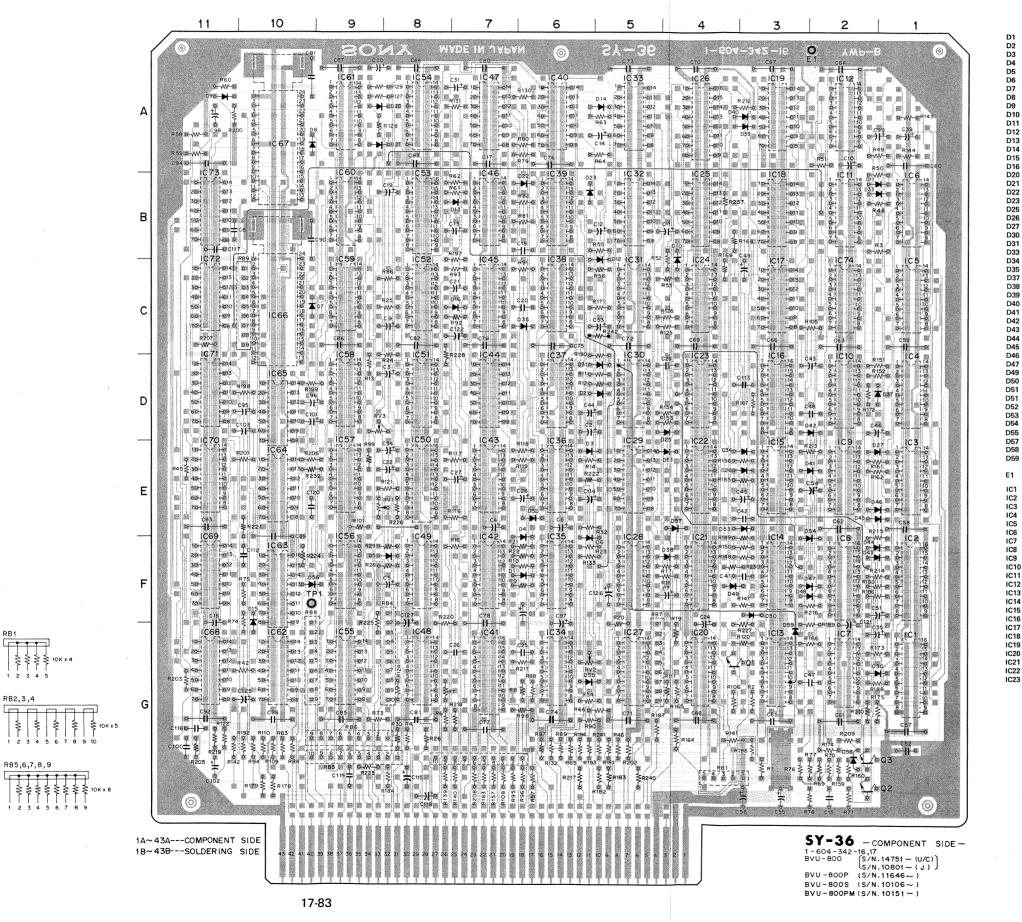






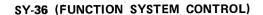
RE-3-SOLDERING SIDE 1-604-359-16
BVU-8000
BVU-800P
BVU-800S
BVU-800PM

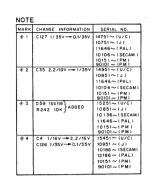
SY-36 (FUNCTION SYSTEM CONTROL)

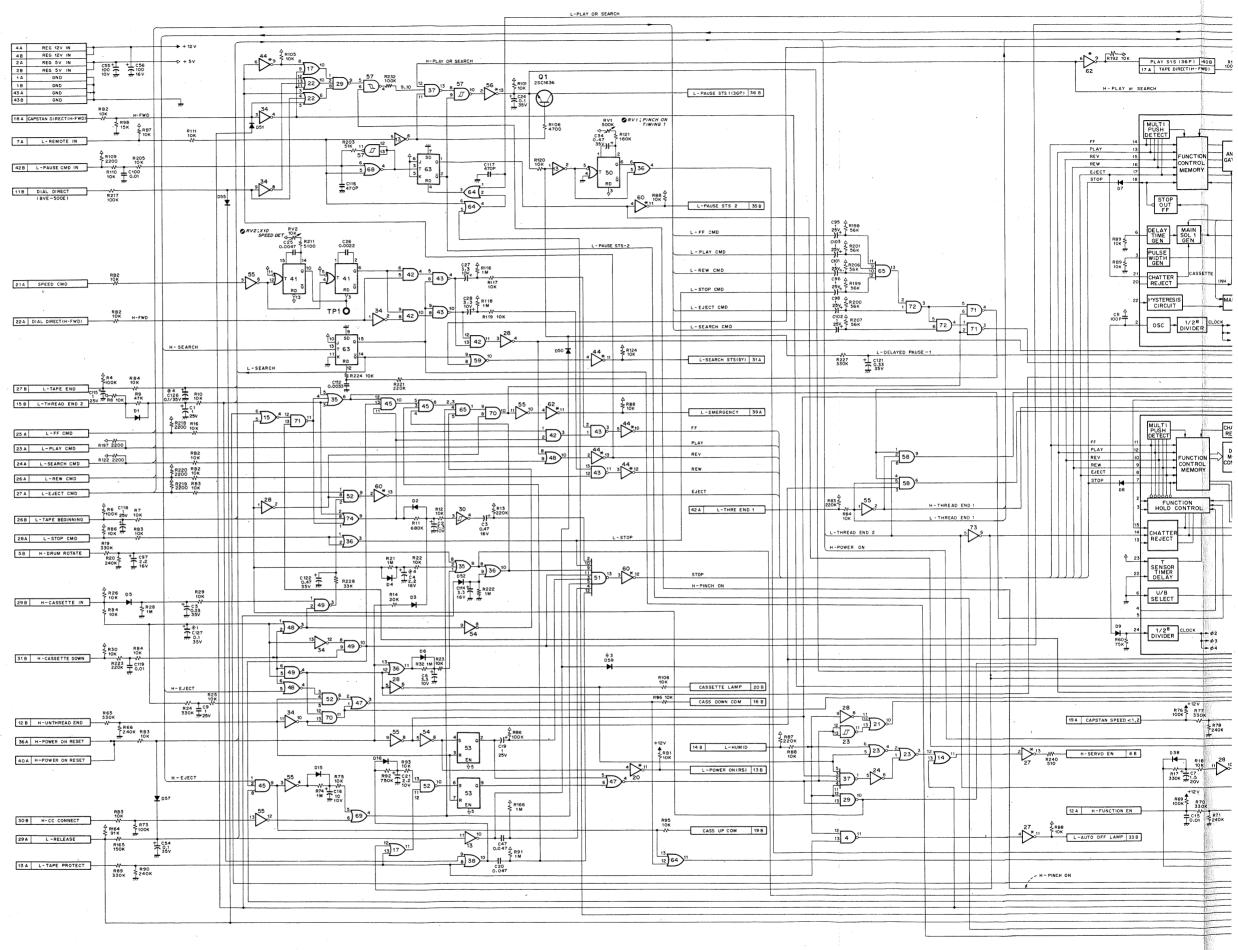


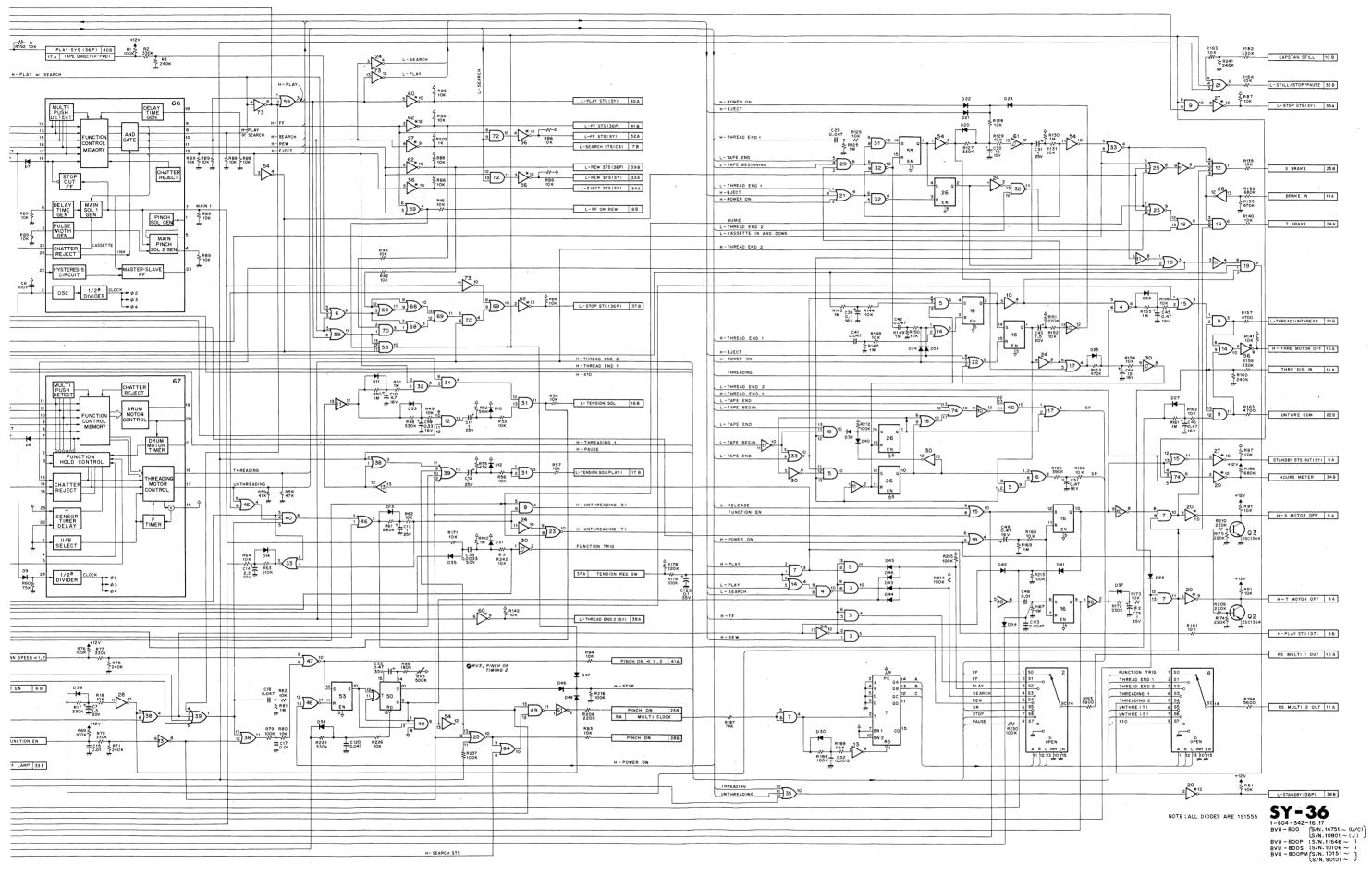
0 1 2 3 4 5 6 7 8 9 0 1 2 3	5 6 7 8	0 1 2 3 4		012344560123667013445667001234666730
A - 3 G - 4 F - 4 E - 4 D - 4	E - 3 D - 3 C - 3 B - 3	A - 2 F - 1 C - 1 C - 1 C - 1 C - 1 C - 2 C - 2 C - 2 C - 3 C - 3 C - 3 C - 3 C - 3 C - 3 C - 3 C - 3 C - 4 F - 4 C - 4	G · 1 F · 1 E · 1	FDEFFECAACBCBAFCAABBDEEGDBDCDFFAAEDFFEEFFFEDEEFGEGG A GFEDCBGFEDBAGFEDCAGFEDCAGFEDCBAGFEDCBAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDCAGFEDC
TP1	RV1 RV2 RV3	RB1 RB2 RB3 RB4 RB5 RB6 RB7 RB8 RB9	Q1 Q2 Q3	IC24 IC25 IC26 IC27 IC28 IC29 IC30 IC31 IC32 IC33 IC34 IC35 IC36 IC37 IC38 IC39 IC40 IC41 IC42 IC43 IC46 IC47 IC48 IC49 IC50 IC51 IC52 IC53 IC54 IC55 IC56 IC57 IC58 IC59 IC60 IC61 IC62 IC63 IC66 IC67 IC68 IC69 IC66 IC67 IC68 IC69 IC69 IC69 IC71 IC72 IC73 IC74 IC74 IC74 IC74 IC77
F - 10	E - 9 G - 6 D - 9	G - 4 G - 7 G - 9 G - 8 G - 7 G - 9 G - 5 G - 10	G - 4 G - 2 G - 2	C - 4 A G - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -

REF. NO.	TYPE	PIN	
		+V (5V)	
IC 1	TC40161BP , CD40161BE	16	8
IC 2	TC4512BP , MC14512BCP	16	8
1C3	TC4081BP , CD4081BE	14	7
104	TC4011BP , CD4011BE	14	7
IC5	TC4073BP , CD4073BE	14	7
106	TC4075BP , CD4075BE	14	7
IC7	TC4081BP , CD4081BE	14	7
IC8	TC4512BP , MC14512BCP	16	8
IC9	TC4081BP , CD4081BE	14	7
IC10		14	1
1010	TC4069UBP, CD4069UBE		7
	TC4069UBP, CD4069UBE	14	7
IC12	TC4082BP , CD4082BE	14	7
IC13	TC4069UBP , CD4069UBE	14	7
IC14	TC4071BP , CD4071BE	14	7
IC15	TC4001BP , CD4001BE	14	7
IC16	TC4043BP , CD4043BE	16	8
IC17	TC4071BP , CD4071BE	14	
	· ·	1	7
IC18	TC4071BP , CD4071BE	14	7
IC19	TC4073BP , CD4073BE	14	7
1020	M54529P	14	7
1021	TC4025BP , CD4025BE	14	7
1022	TC4075BP , CD4075BE	14	7
IC23	TC4001BP . CD4001BE	14	7
IC23	TC4069UBP , CD4069UBE	14	7
IC25	TC4025BP , CD4025BE	14	7
1026	TC4043BP , CD4043BE	16	8
IC27	M54529P	14	7
IC28	TC4069UBP, CD4069UBE	14	7
1029	TC4023BP , CD4023BE	14	7
1030	MC14584BCP	14	7
		1 1	
IC31	TC4081BP , CD4081BE	14	7
IC32	TC4011BP , CD4011BE	14	. 7
1C33	TC4001BP , CD4001BE	14	7
IC34	TC4069UBP, CD4069UBE	14	7
IC35	TC4075BP , CD4075BE	14	7
1036	TC4071BP , CD4071BE	14	7
1037	TC4040DD C04040DE	14	7
IC38	TC4071BP , CD4071BE	14	7
IC39	TC4072BP , CD4072BE	14	7
IC40	TC4073BP , CD4073BE	14	7
1041	TC4528BP , MC14528BCP	16	8
IC42	TC4081BP , CD4081BE	14	7
1043	TC4011BP , CD4011BE	14	7
1044	M54529P	14	7
1045	TC4073BP , CD4073BE	14	7
IC46	TC4071BP , CD4071BE	14	7
IC47	TC4001BP , CD4001BE	14	7
IC48	TC4001BP , CD4001BE	14	7
1049	TC4011BP , CD4011BE	14	7
IC50	HD14538BP	16	8
IC51			
· · · · · · · · · · · · · · · · · · ·	,	14	7
IC52	TC4023BP , CD4023BE	14	. 7
IC53	TC4043BP , CD4043BE	16	8
IC54	TC4069UBP, CD4069UBE	14	7
IC55	TC4069UBP, CD4069UBE	14	7
IC56	M54529P	14	7
IC57	TC4093BP . CD4093BE	14	7
	,		
IC58	TC4073BP , CD4073BE	14	7
IC59	TC4001BP , CD4001BE	14	7
1060	M54529P	14	7
IC61 .	MC14584BCP	14	7
1062	M54529P	14	7
IC63	TC4027BP , CD4027BE	16	8
IC64		14	-7
IC65	TC4082BP , CD4082BE	14	7
IC66	CX756A	F	24
IC67	CX757	F	1
IC68	TC4001BP , CD4001BE	14	7
IC69	TC4071BP , CD4071BE	14	7
IC70	TC4081BP , CD4081BE	14	7
IC71	TC4011BP , CD4011BE	14	7
1072	TC4081BP , CD4081BE	14	7
	TC4069UBP, CD4069UBE		

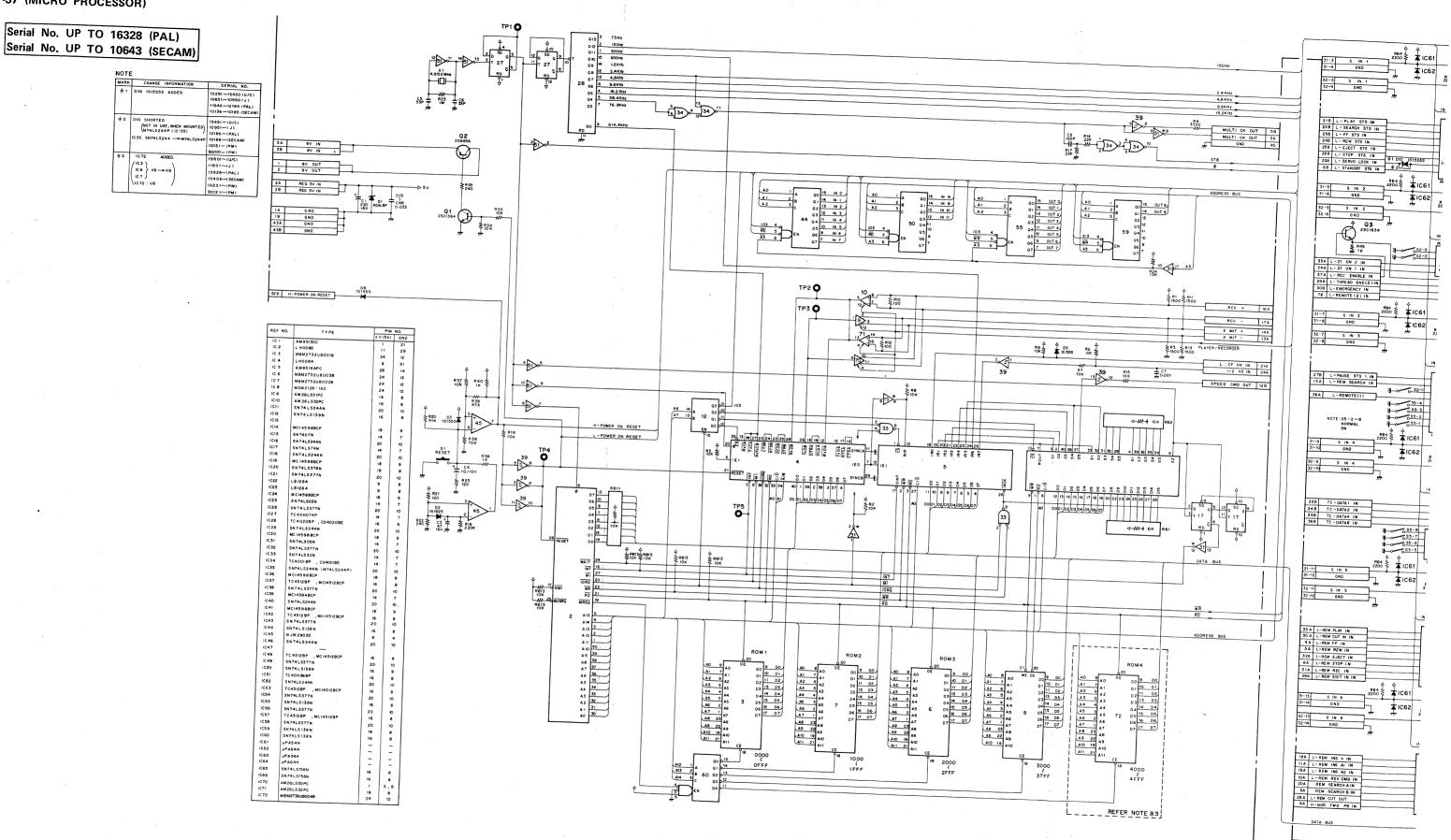


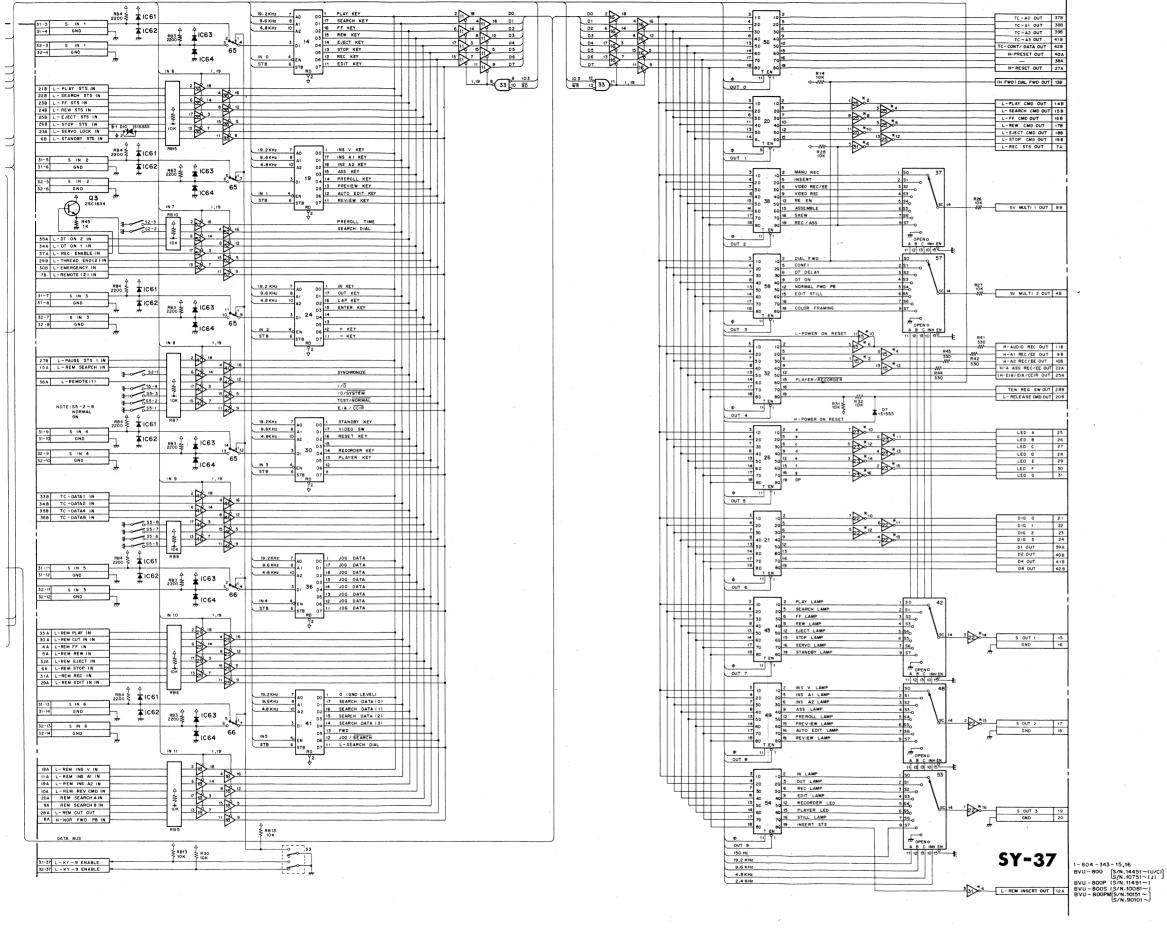






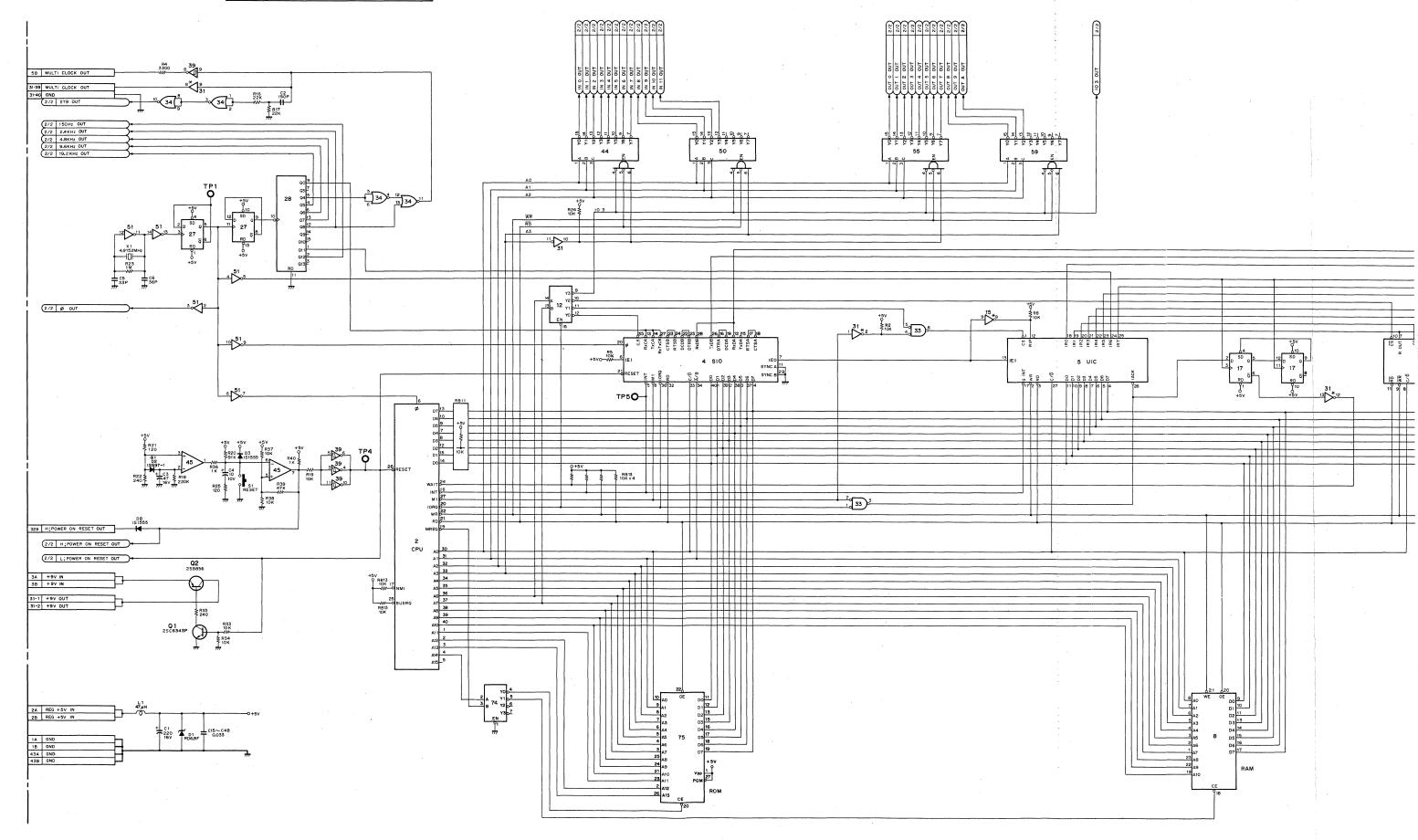
SY-37 (MICRO PROCESSOR)

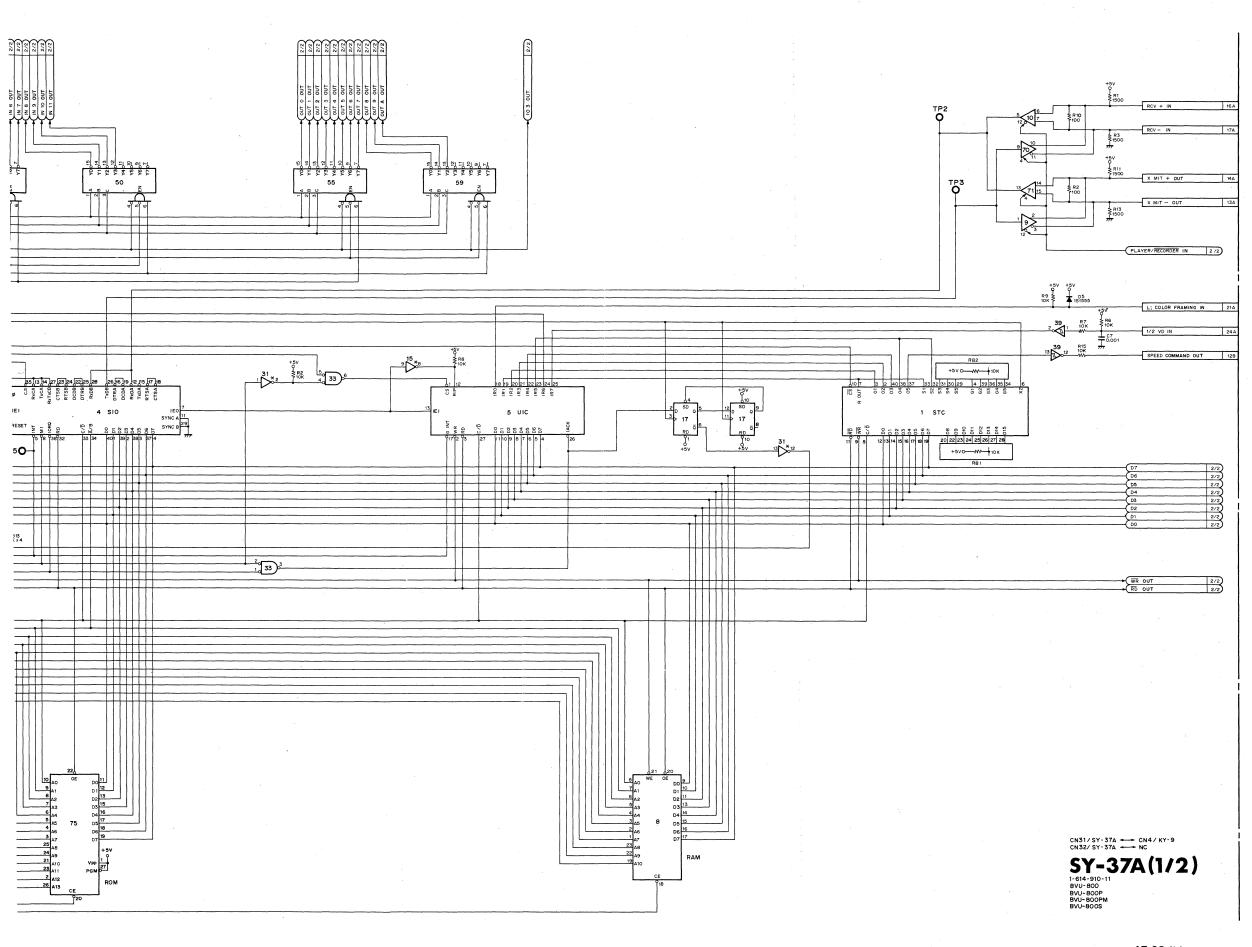






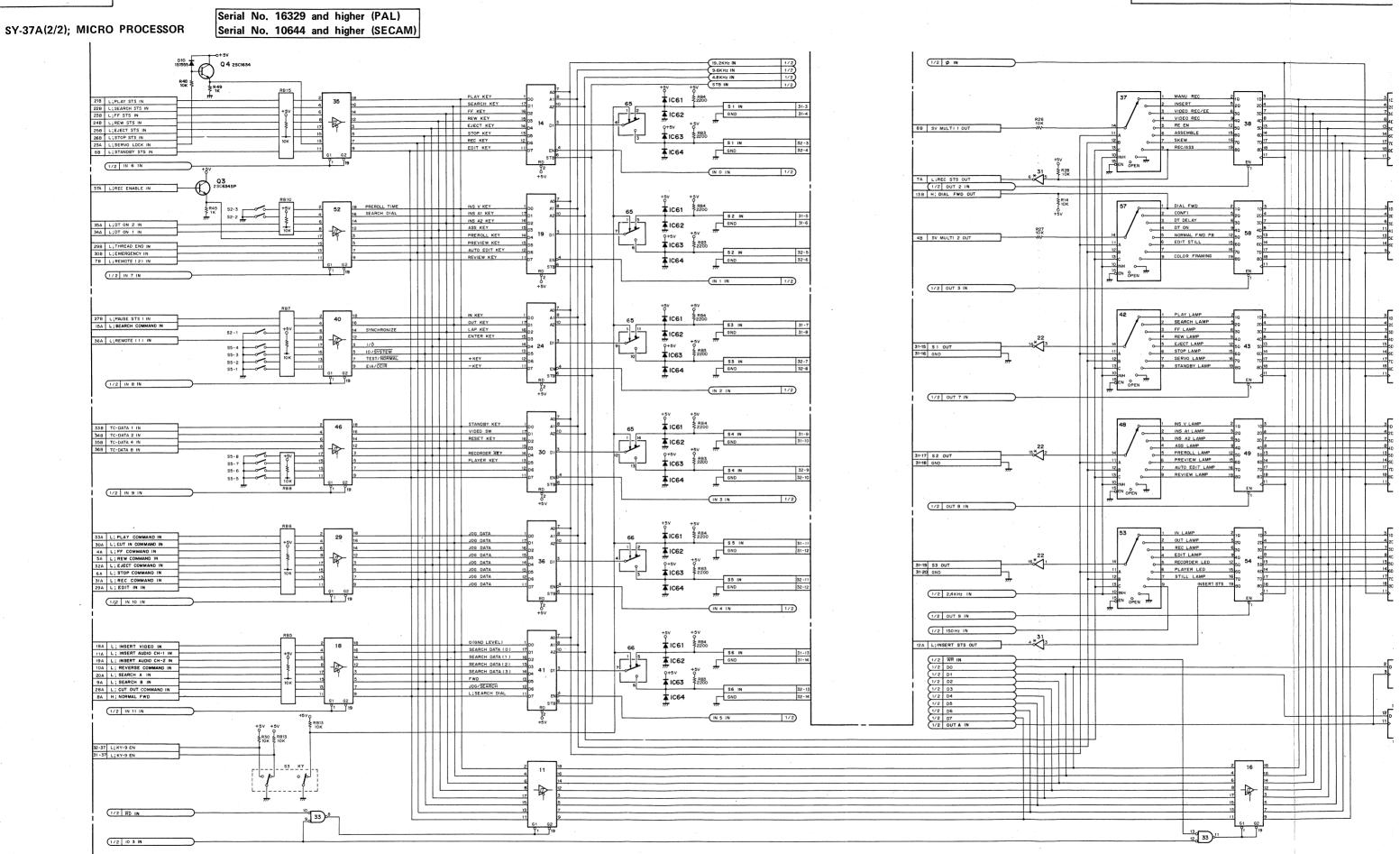
Serial No. 16329 and higher (PAL) Serial No. 10644 and higher (SECAM)

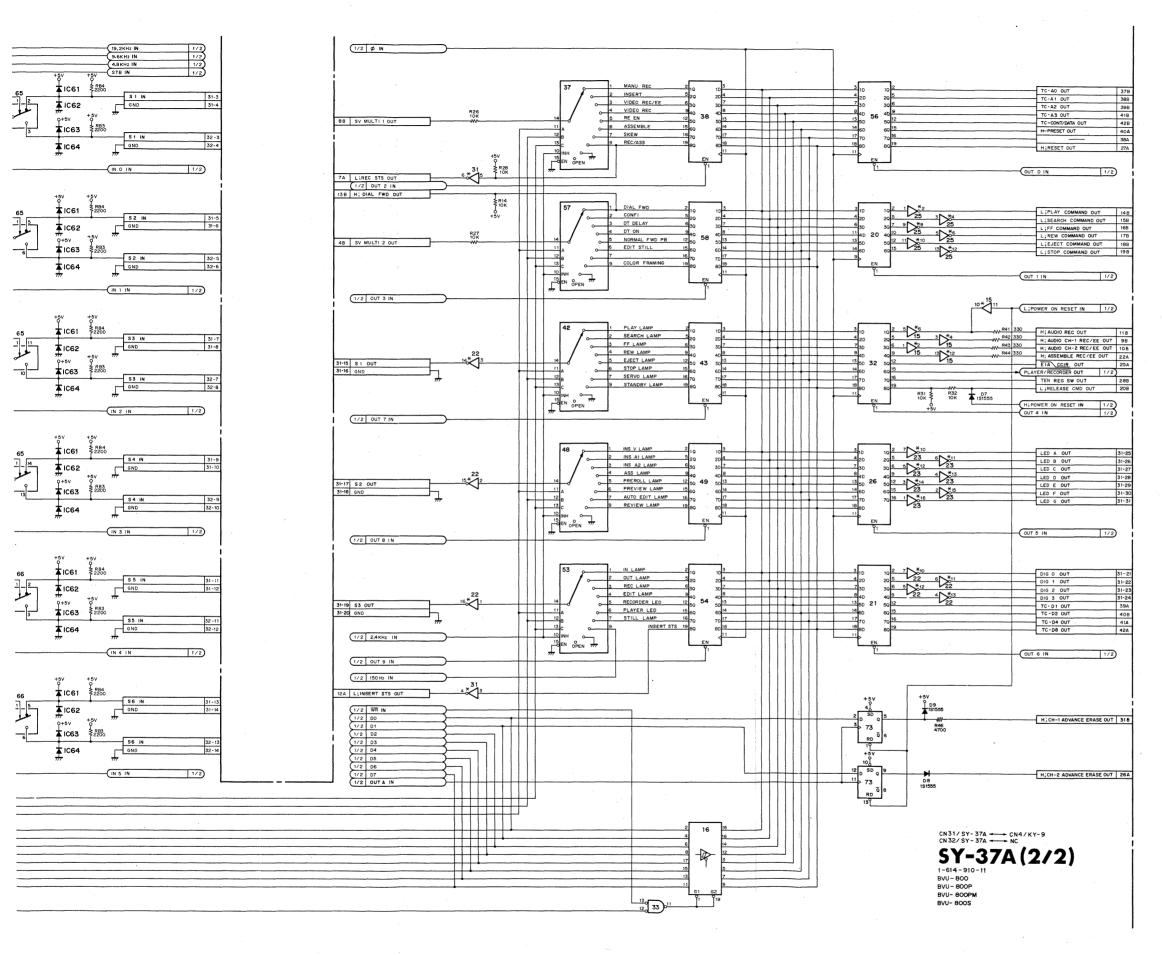




REF NO.	TYPE	+ V (5V)	NO- GND
1C 1	AM9513DC	1	21
1C 2	L H0080	11	29
IC 3		24	12
IC 4	LH0084	9	31
IC 5	AM9519APC	28	14
IC 6		24	12
IC 7		24	12
IC B	MSM2128 - 15RS AM26LS31PC	16	8
1010	AM 26LS31PC	16	8
1011	SN 74 L S244 N	20	10
1012	SN741 S139N	16	8
1013			
1014	MC14598BCP	18	9
IC15	SN7407N	14	7
1016	SN74LS244N	20	10
1017	SN74LS74AN	14	7
IC18	SN74LS244N	20	10
1C19	MC14598BCP	18	9
1050	SN74LS378N	16	8
1021	SN74LS377N	20	10
IC22	LB 12 61	9	8
IC23	LB1261	9	8
IC 24	MC14598BCP	18	9
IC25	SN74LS05N	14	7
IC26 IC27	SN74LS377N TC40H074P	14	7
IC27	TC4020BP	16	é
1029	SN74LS244N	20	10
1030	MC14598BCP	18	9
IC31	SN74LS05N	14	7
1032	SN74LS377N	20	10
IC 33	SN74LS32N	14	7
1034	TC4001 BP	14	7
1035	M74LS244P	20	10
IC36	MC14598BCP	18	9
(C37	TC4512BP	16	8
IC38	SN74LS377N	20	10
IC39	MC14584BCP	14	7
1040	SN74LS244N	20	10
IC41	MC14598BCP	18	9
1042	TC 4512 BP	16	8
1043	S N 74LS377 N	16	В В
1044	SN74LS138N NJM2903D	16	4
IC 46	SN74LS244N	20	10
1047	3474232444	20	1 "
IC 48	TC 4512BP	16	8
IC 49	SN74LS377N	20	10
iC50	SN74LS138N	16	8
1051	TC40H368P	16	8
IC52	SN74LS244N	20	10
IC53	TC4512BP	16	8
IC54	SN74LS377N	20	10
IC55	SN74LS138N	16	8
IC56	SN74LS377N	20	10
IC57	TC4512BP	16	8
IC58	SN74LS377N	20	10
IC59	SN74 LS 138 N	16	8
1060		16	8
1061	μPA54H υPA64H	-	-
	I'	-	1 -
IC 63	μPA54H μPA64H	-	-
1064	SN74LS158N	16	8
1065	SN74LS158N SN74LS158N	16	8
1070	AM26LS31PC	16	1 -
1070	AM26LS31PC	16	5,8
1072		24	12
IC73	SN74HC74N	14	7
IC74	SN74LS139N	16	В
1075	27128-UBOOV	28	14

MARK	CHANGE INFORMATION	SERIAL NO.
·\$·1	D2 151925 15597-1	24456 ~ (U/C)
		12615 ~ (J)
		16689 ~ (PAL)
		10662 ~ (SECAM)
		10563 ∼ (PM)
		90121 ~ (PM)

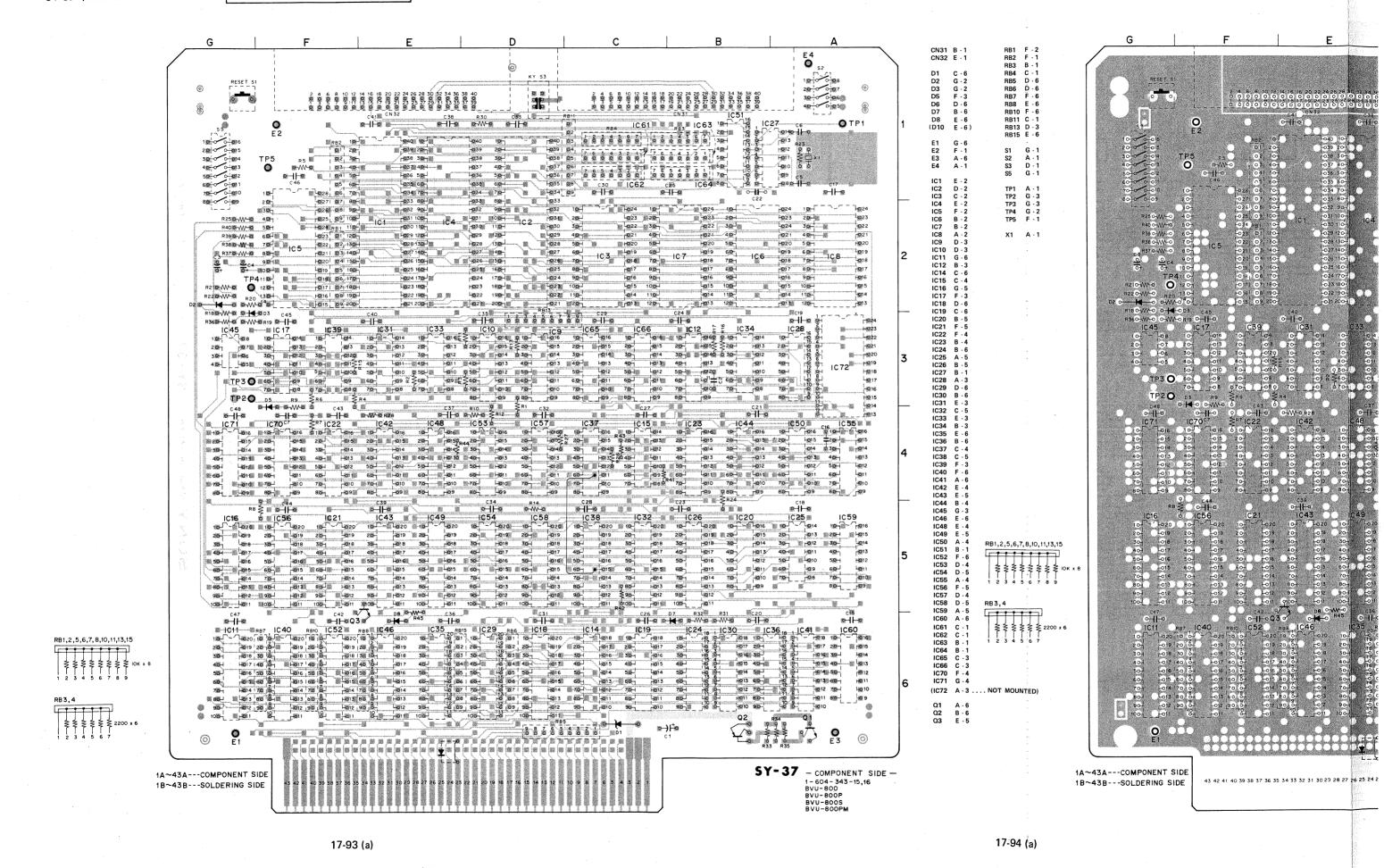


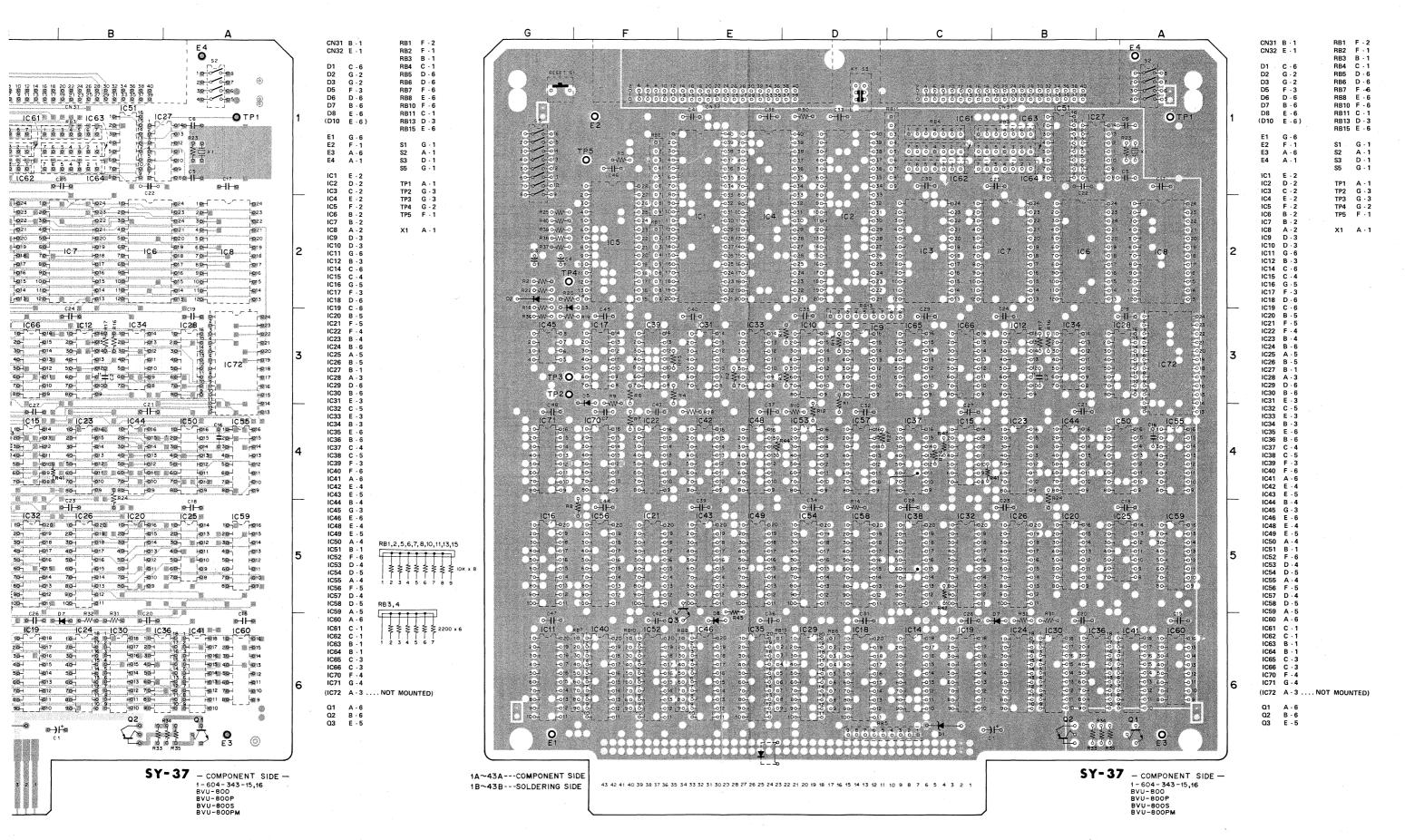


ÉF NO.	TYPE	PIN + V (5V)	NO.	
IC 1	AM9513DC	+ V (5V)	GND 21	
IC 2	L H0080	11	29	
IC 3	_	24	12	
IC 4	LH0084	9	31	
IC 5	AM9519APC	28	14	
IC 6		24	12	
IC 7		24	12	
IC 8	MSM2128 - 15RS AM26LS31PC	16	12 8	
IC10	AM 26LS32PC	16	8	
1011	SN74 LS244N	20	10	
IC12	SN74LS139N	16	8	
IC13				
IC14	MC14598BCP	18	9	
IC15	SN7407N	14	7	
1016	SN74LS244N	20	10	
1017	SN74LS74AN	14	10	
IC18	SN74LS244N MC14598BCP	18	9	
1020	SN74LS378N	16	8	
1021	SN74LS377N	20	10	
1022	LB 1261	9	8	
IC23	LB 1261	9	8	
IC 24	MC(4598BCP	18	9	
IC25	SN74LS05N	14	7	
1026	SN74LS377N	20	10	
IC27 IC28	TC40H074P	14	7 8	1
1028	TC4020BP SN74LS244N	20	10	
1030	MC14598 BCP	18	9	
1031	SN74LSO5N	14	7	1
IC32	SN74LS377N	20	10	
IC 33	SN74LS32N	14	7	
1034	TC4001BP	14	7	
IC35	M74LS244P	50	10	l
IC36	MC14598BCP	18	9	
IC37 IC38	TC4512BP SN74LS377N	16	10	1
1039	MC14584BCP	14	7	ì
1040	SN74LS244N	20	10	
IC41	MC14598BCP	18	9	l
1042	TC4512BP	16	8	1
1043	SN74LS377N	20	10	ı
IC44	SN74 L S 138 N	16	8	
IC45	N J M 2903D	8	4	
IC 46	SN74LS244N	20	10	ı
1047	TC 4512BP	16	l a	
IC 49	SN74LS377N	20	10	l
1050	SN74LS138N	16	8	1
1051	TC40H368P	16	В	
IC52	SN74LS244N	20	10	
1053	TC4512BP	16	8	1
IC54	SN74LS377N	20	10	
1055	SN74LS138N	16	8	ı
IC56 IC57	SN74LS377N TC4512BP	20	10 B	1
IC57	SN74LS377N	20	10	
1059	SN74LS 138 N	16	8	l
1060	_	16	В	1
1061	µPA54H	-	-	
IC62 .	µРА64Н	-	-	
1063	µРА54Н	-	-	l
1064	µРА64Н	-	-	
1065	SN74LS158N	16	8	
IC66	SN74LS158N	16	8	
1070	AM26LS31PC AM26LS32PC .	1 16	5,8	١
IC 72		24	12	1
IC73	SN74HC74N	14	7	l
IC74 IC75	SN74LS139N 27128-U800V	16	8 14	1

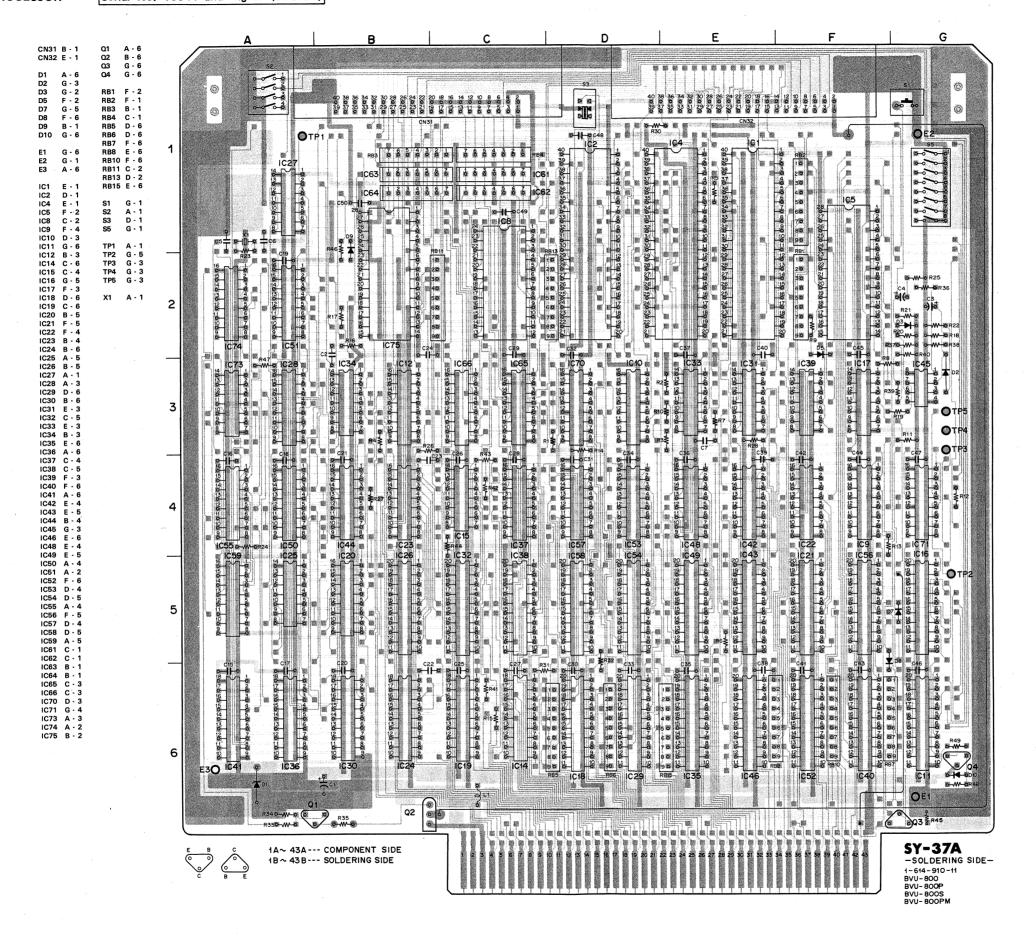
SY-37 (MICRO PROCESSOR)

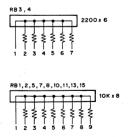
Serial No. UP TO 16328 (PAL) Serial No. UP TO 10643 (SECAM)



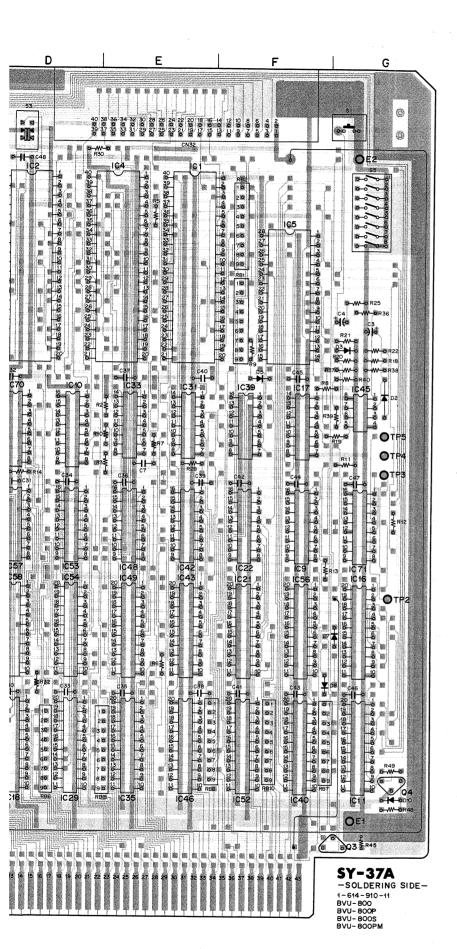


Serial No. 16329 and higher (PAL) Serial No. 10644 and higher (SECAM)

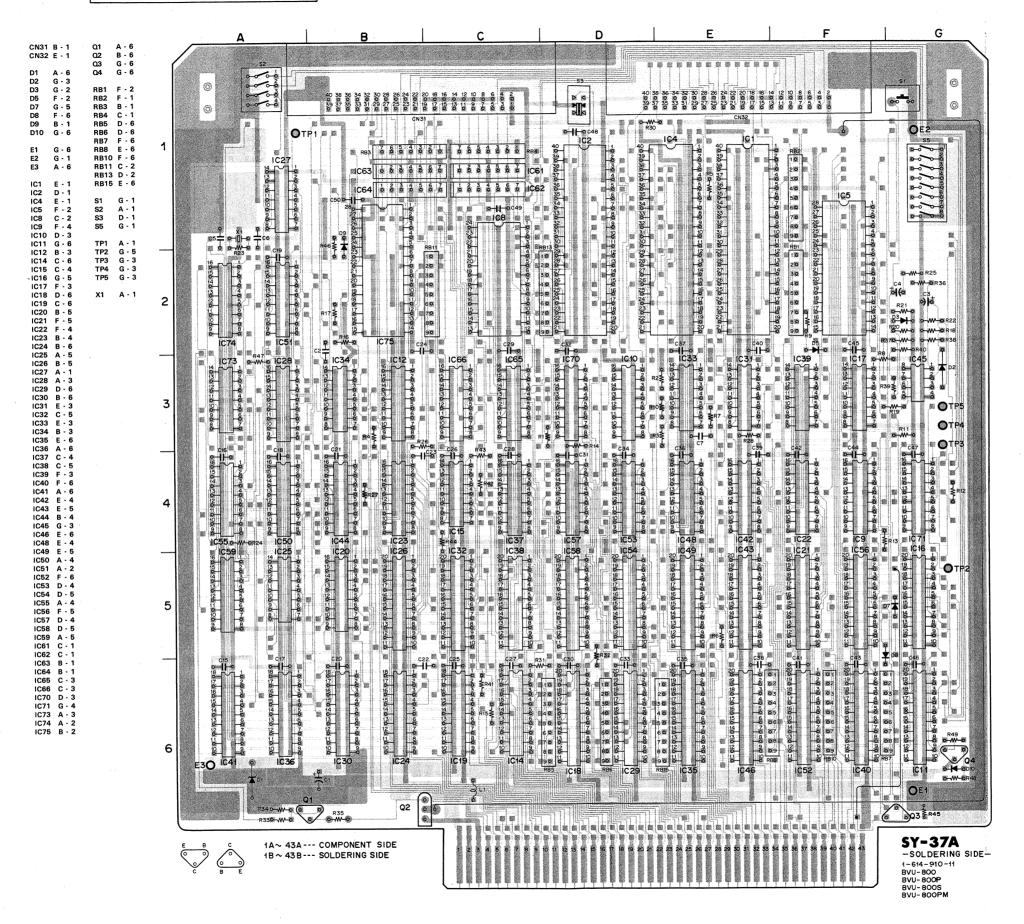


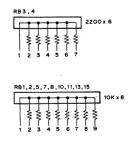


7A

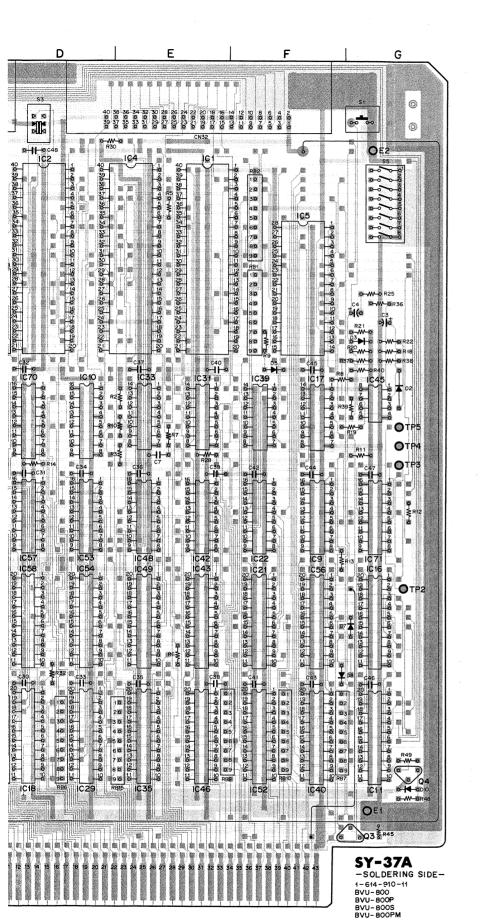


Serial No. 16329 and higher (PAL) Serial No. 10644 and higher (SECAM)





37A



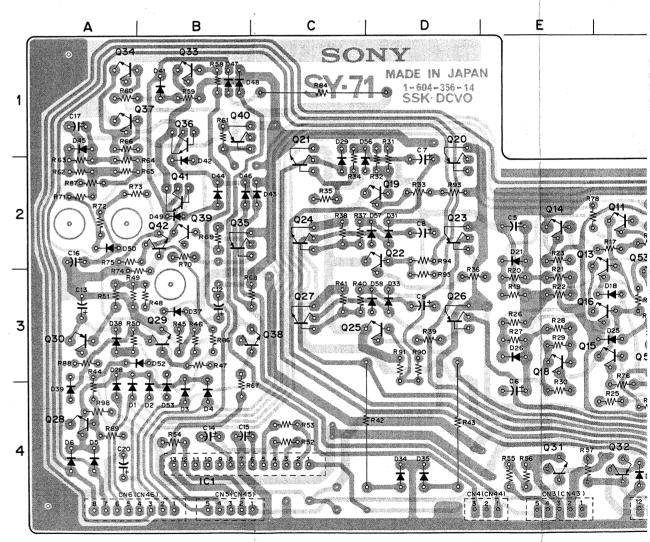
2200 x 6

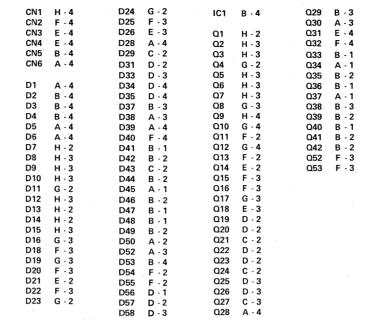
R81, 2, 5, 7, 8, 10, 11, 13, 15

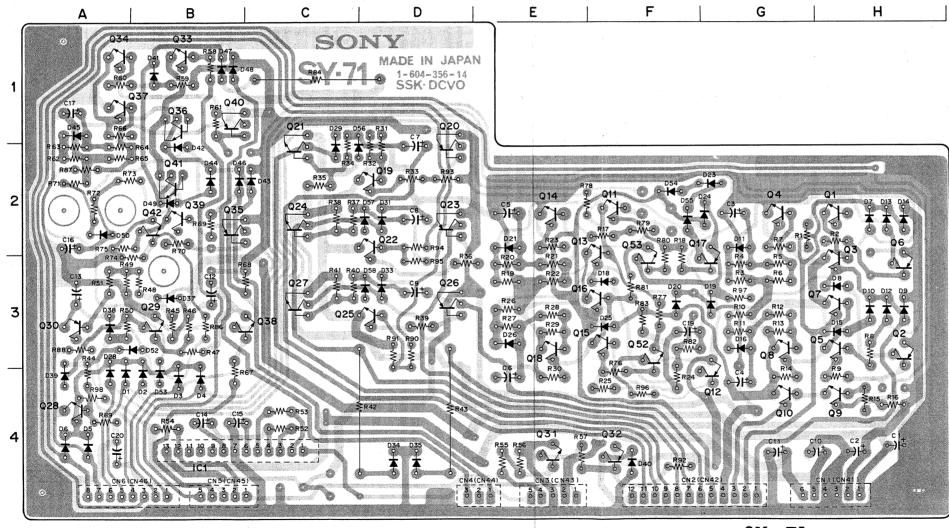
R81, 2, 5, 7, 8, 10, 11, 13, 15

10K x 8

SY-71







SY - 71 — SOLDERING SIDE —

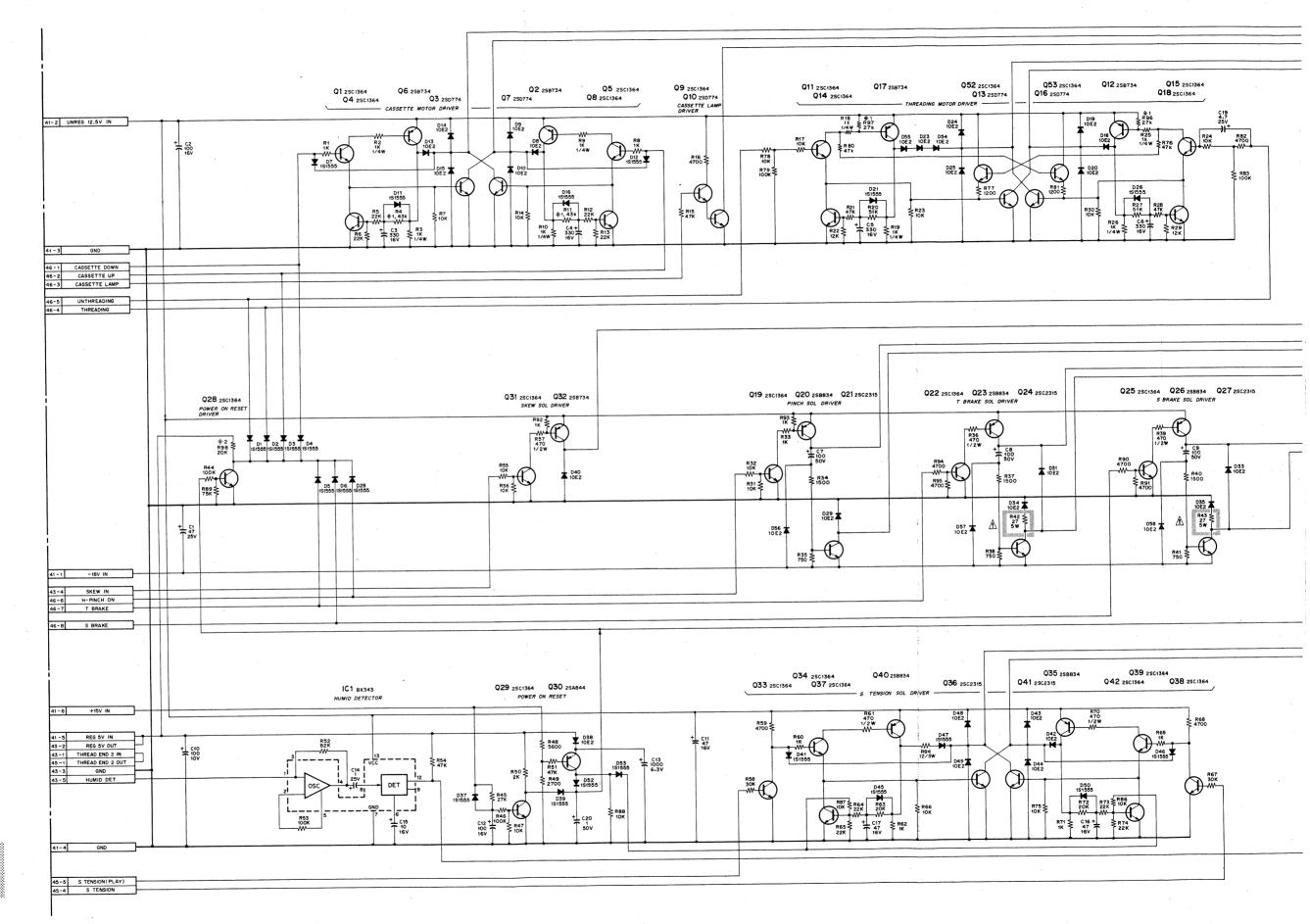
1-604-356-14

BVU-800

BVU-800P

BVU-800S

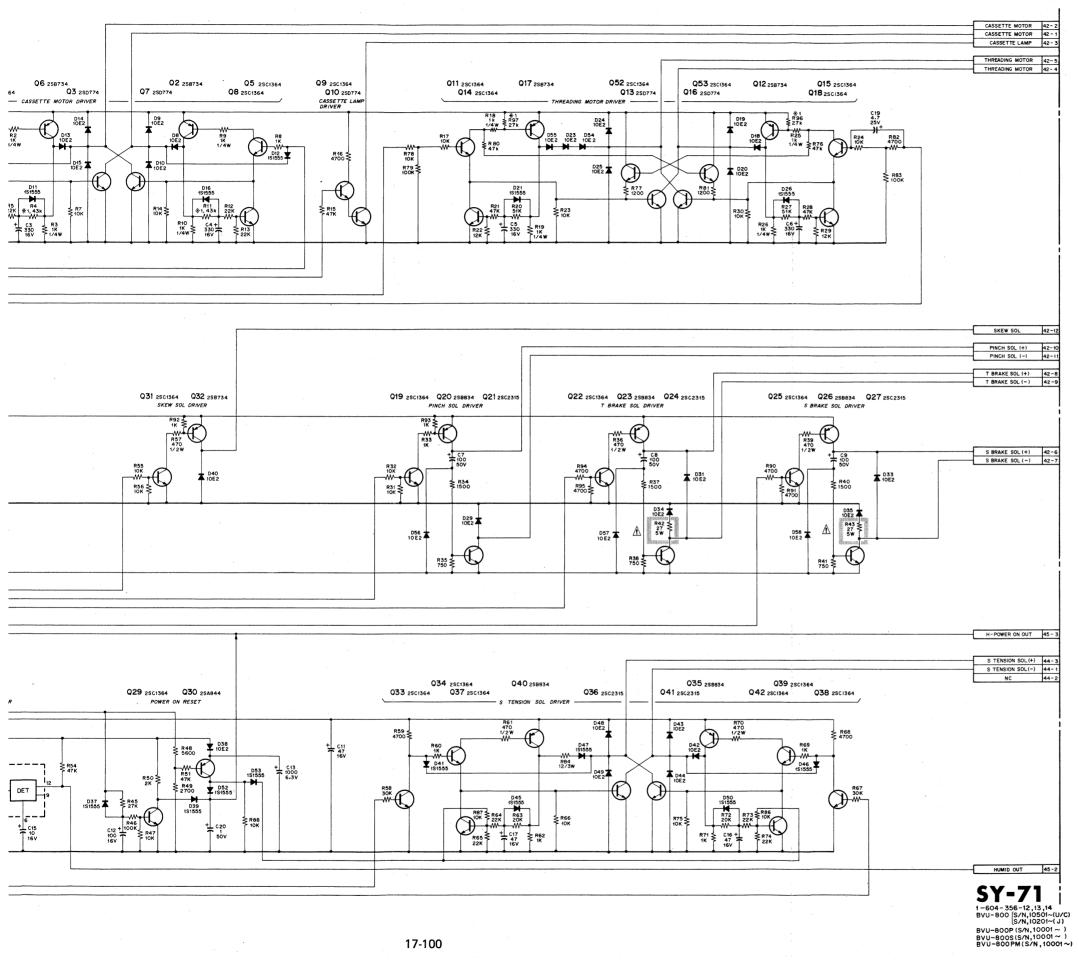
BVU-800PM

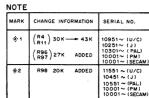


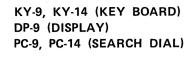
s ded and <u>↑</u>-marked components are critical to ty. lace only with same components as specified.

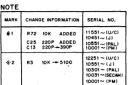
(MOTOR/SOLENOID DRIVER)

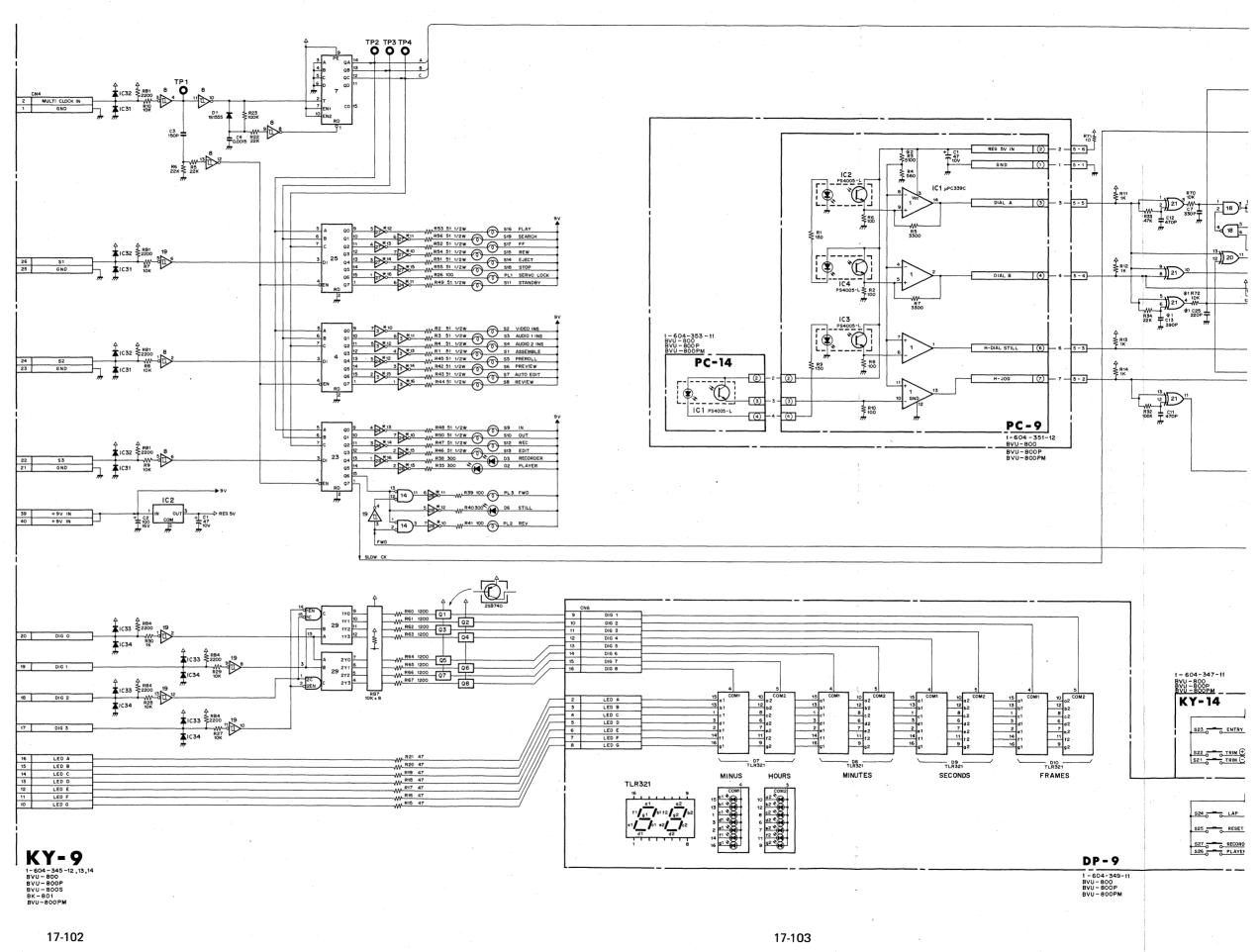
17-100

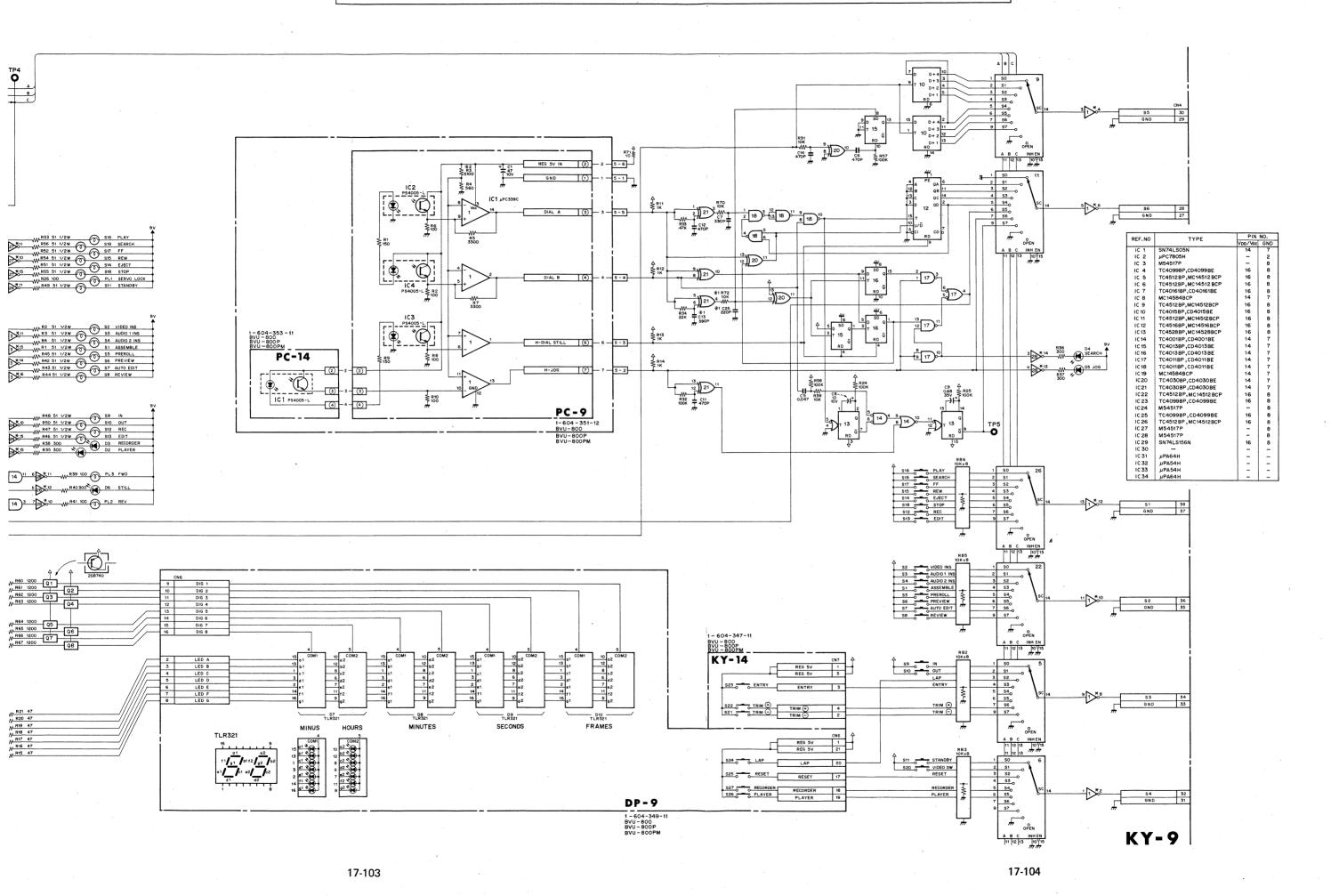




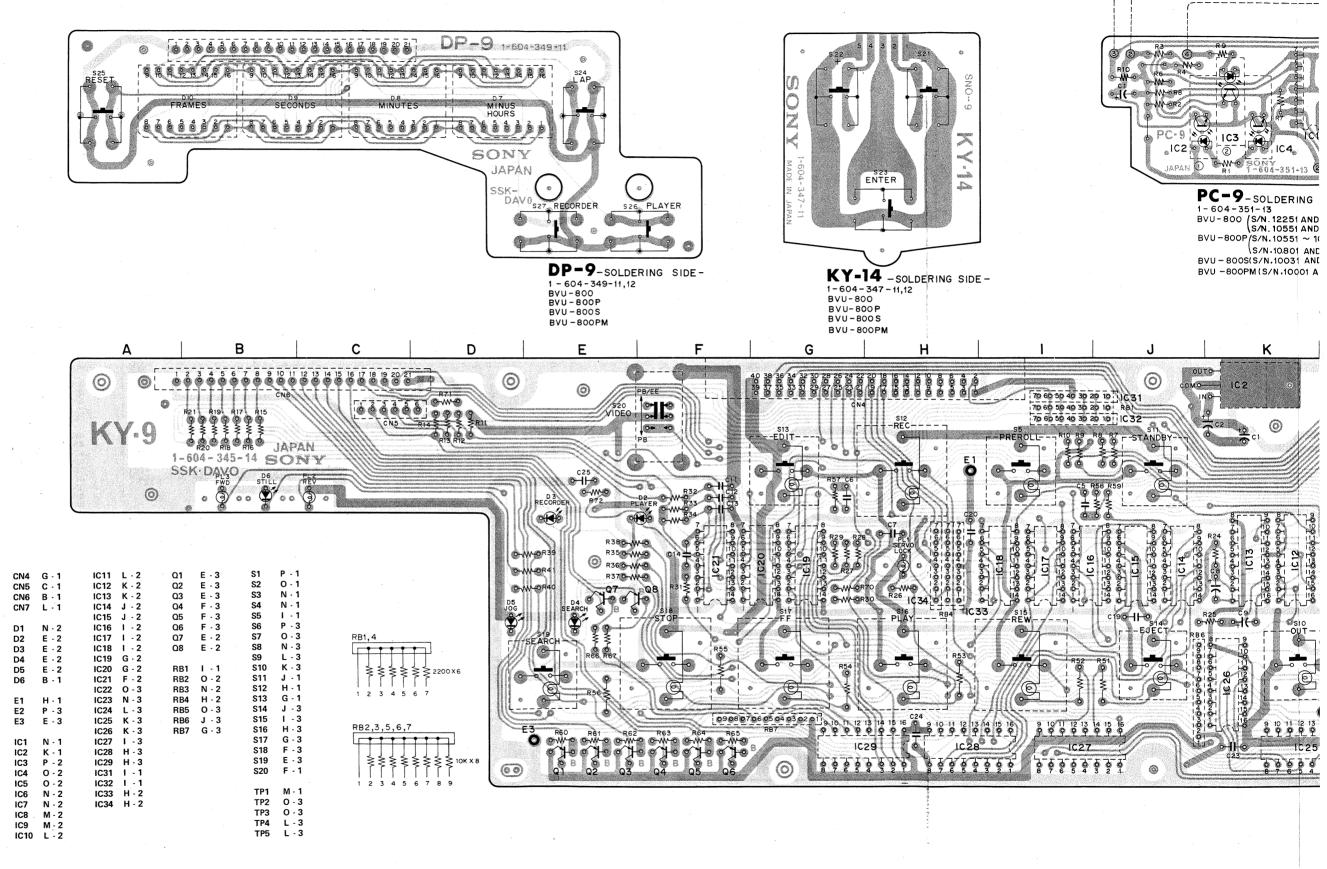




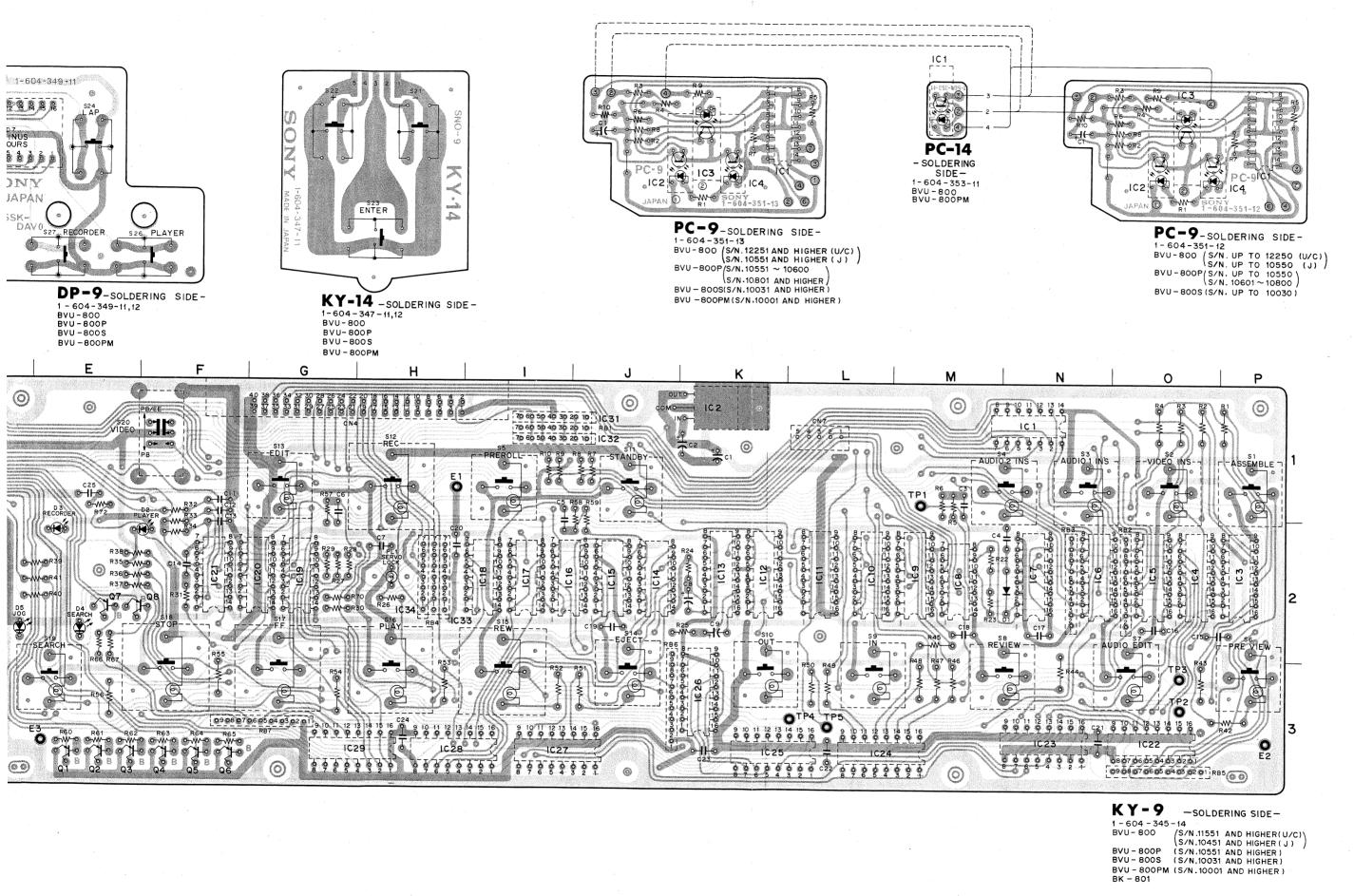




KY-9, KY-14 (KEY BOARD) DP-9 (DISPLAY) PC-9, PC-14 (SEARCH DIAL)

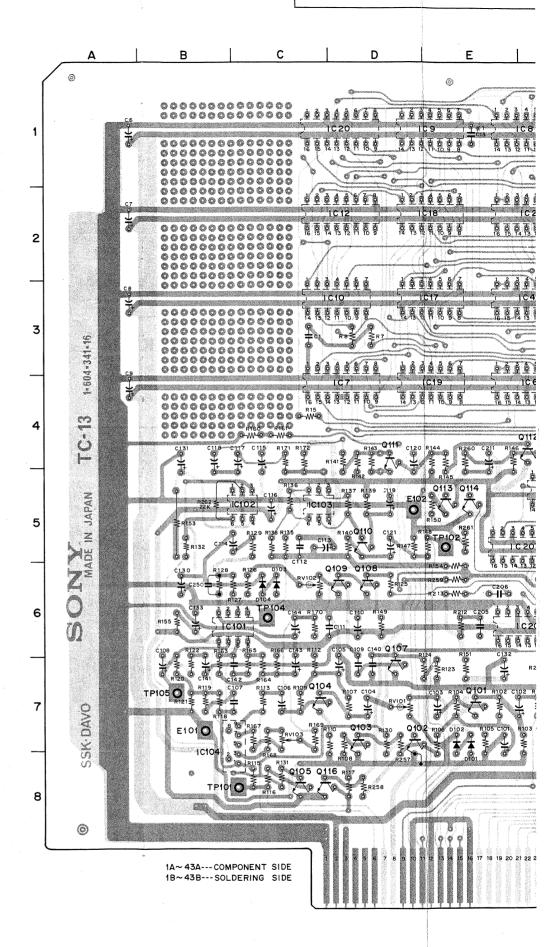


2-14

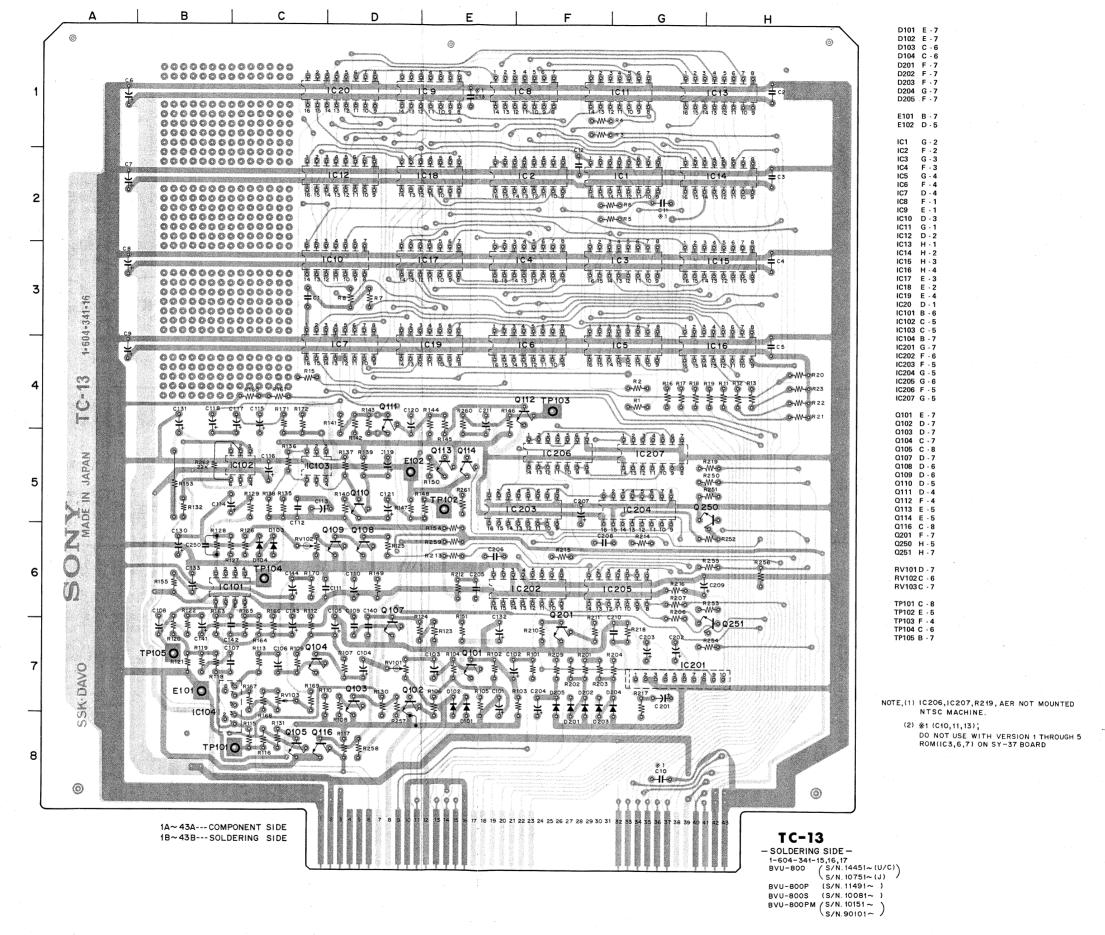


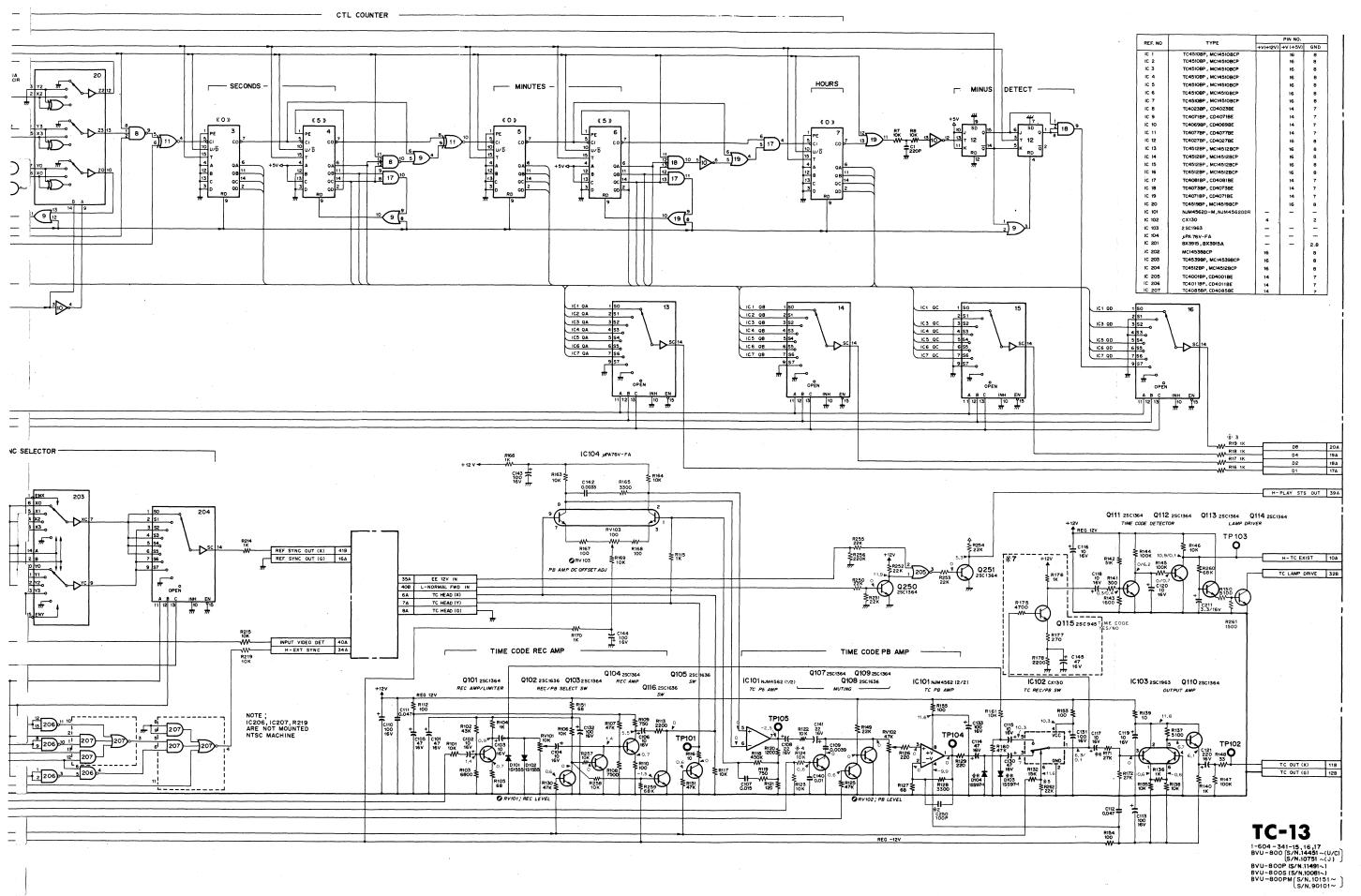
TC-13-1

TC-13-1 (TIME CODE REC/PB AMPLIFIER) (CTL COUNTER) (SERVO REF SYNC SELECTOR)

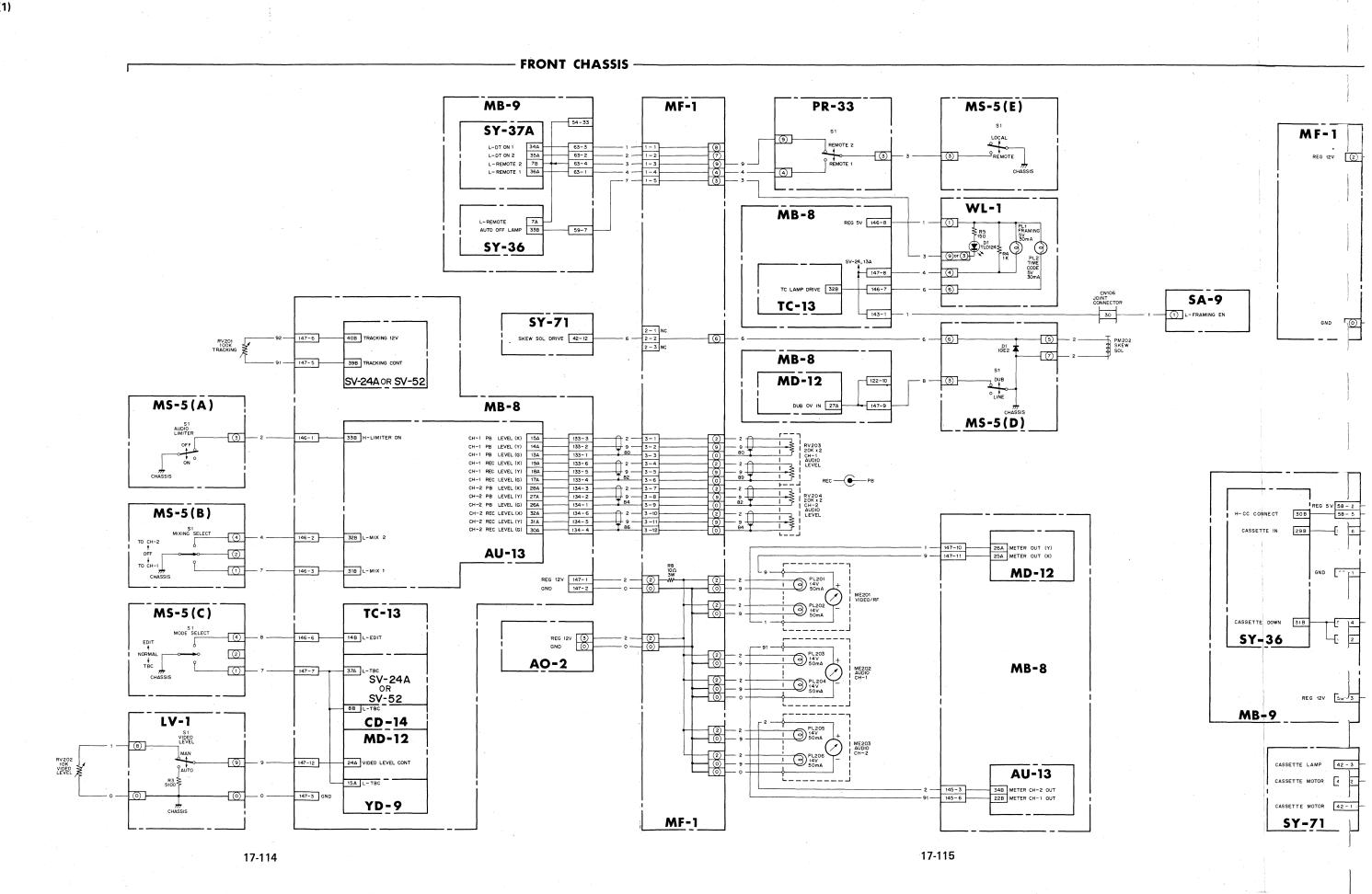


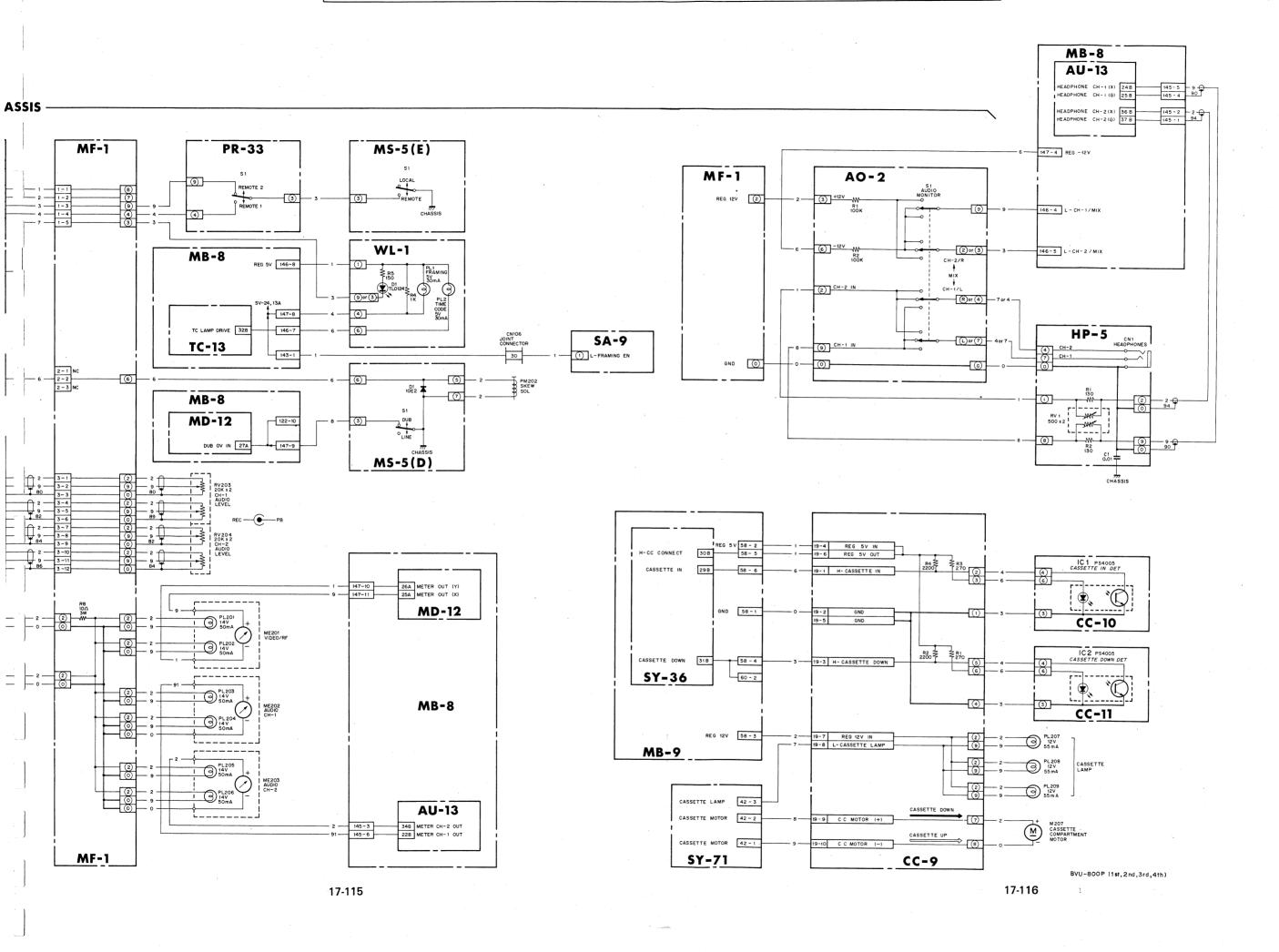
TC-13-1 (TIME CODE REC/PB AMPLIFIER)
(CTL COUNTER)
(SERVO REF SYNC SELECTOR)

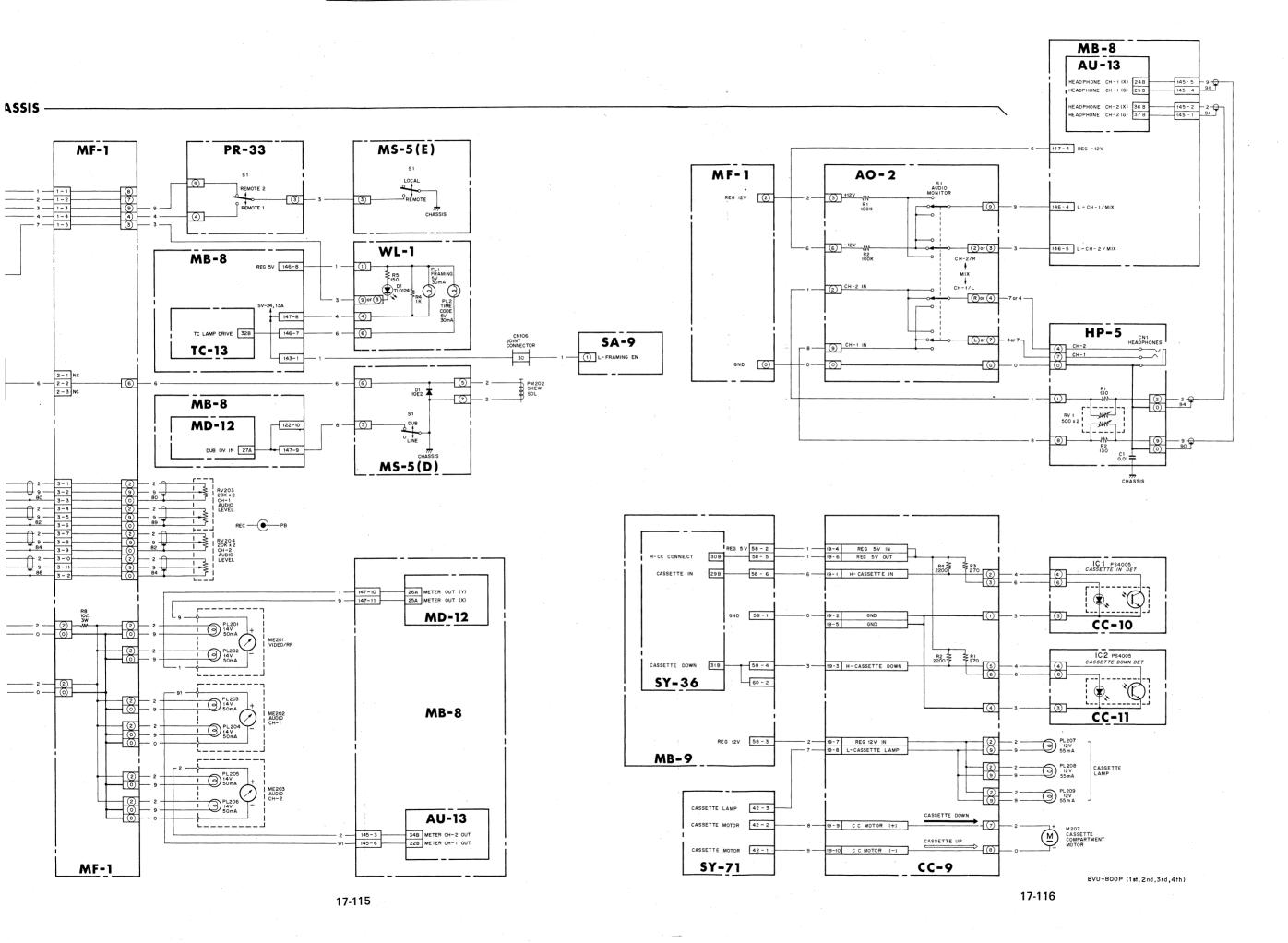


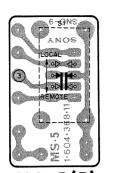


FRAME (1)

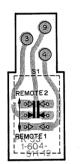




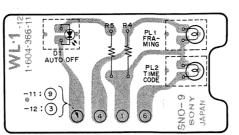




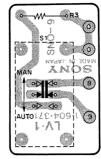
MS-5(E)
- SOLDERING SIDE1-604-368-11
BVU-800
BVU-800P
BVU-800S
BVU-800PM



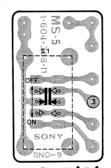
PR - 33
-SOLDERING SIDE1-604-511-12
BVU-800
BVU-800P
BVU-800P
BVU-800S
BVU-800PM



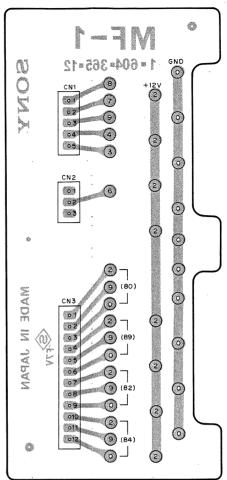
WL = 1 - SOLDERING SIDE-1 - 604-366-11,12 BVU-800 BVU-800P BVU-800PM



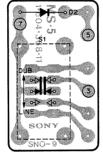
LV = 1
-SOLDERING SIDE 1-604-371-11
BVU-800
BVU-800P
BVU-800S
BVU-800PM



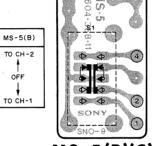
MS - 5(A)
- SOLDERING SIDE 1 - 604 - 368 - 11
BVU - 800
BVU - 800P
BVU - 800P
BVU - 800PM



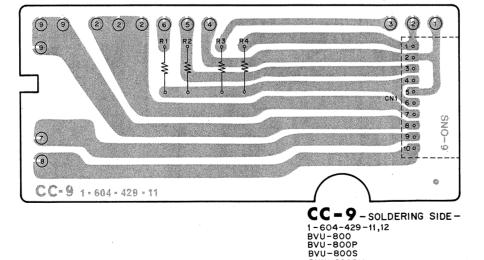
MF-1-COMPONENT SIDE-1-604-365-12,13 BVU-800 BVU-800P BVU-800S BVU-800PM



MS - 5 (D)
- SOLDERING SIDE 1 - 604 - 368 - 11
BVU - 800
BVU - 800P
BVU - 800P
BVU - 800PM



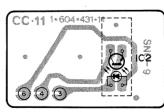
MS - 5 (B)(C)
- SOLDERING SIDE 1-604-368-11
BVU-800
BVU-800P
BVU-800S
BVU-800PM



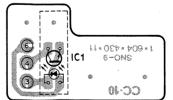
MS-5(C)

NORMAL

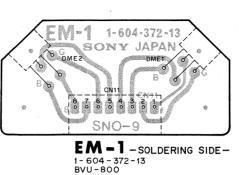
EDIT



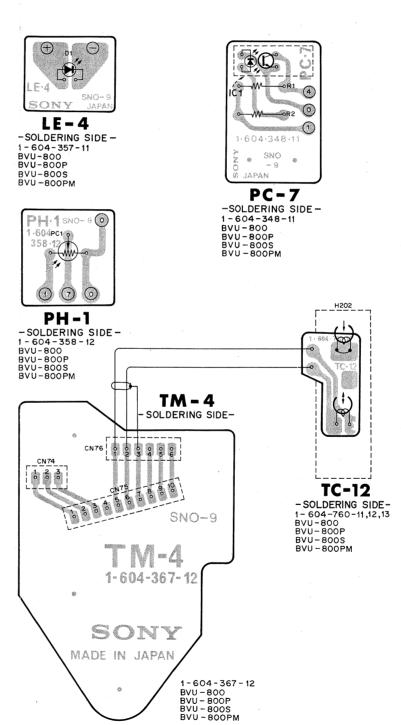
CC-11-SOLDERING SIDE-1-604-431-11,12 BVU-800 BVU-800P BVU-800S BVU-800PM

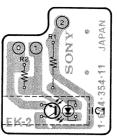


CC-10 - SOLDERING SIDE-1-604-430-11,12 BVU-800 BVU-800P BVU-800S BVU-800PM

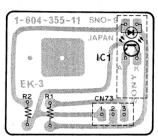


EM - 1 - SOLDERING SIDE -1 - 604 - 372 - 13 BVU - 800 BVU - 800P BVU - 800S BVU - 800PM

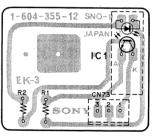




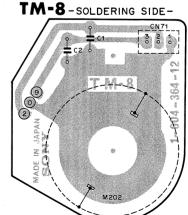
EK-2 -SOLDERING SIDE -1-604 - 354 - 11,12 BVU - 800 BVU - 800P BVU - 800S BVU - 800PM



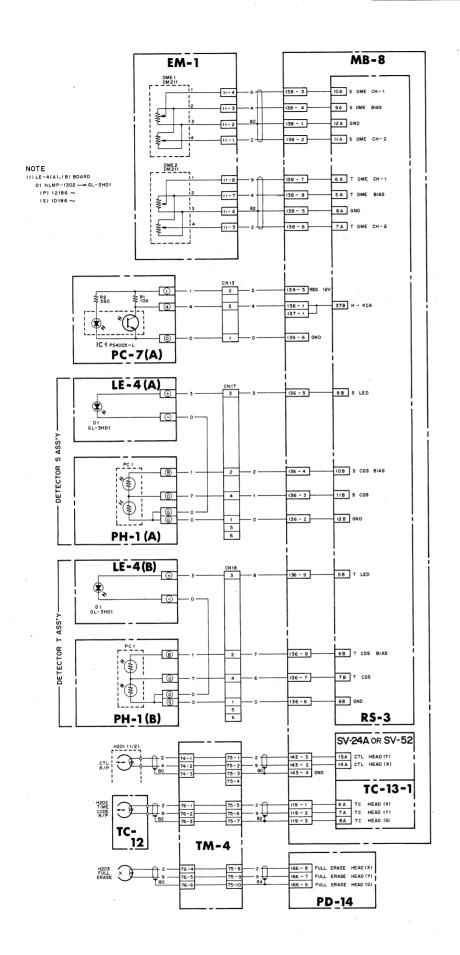
EK-3 -SOLDERING SIDE-1-604-355-11
BVU-800 (\$/N.~11550(U/C))
(\$/N.~10450(J))
BVU-800P (\$/N.~10550)
BVU-800S(\$/N.~10030)

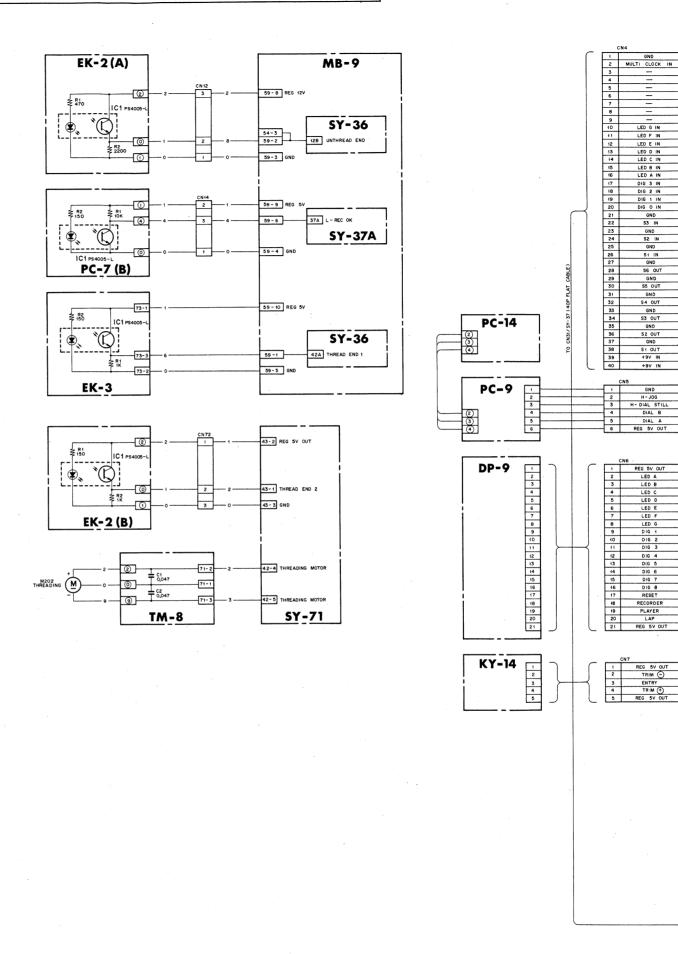


EK-3-SOLDERING SIDE-1-604-355-12 BVU-800 (S/N.11551~(U/C)) (S/N.10451~(J)) BVU-800P (S/N.10551~) BVU-800S (S/N.10031~) BVU-800PM (S/N.10001~)



1-604-364-12,13,14 BVU-800 BVU-800P BVU-800S BVU-800PM





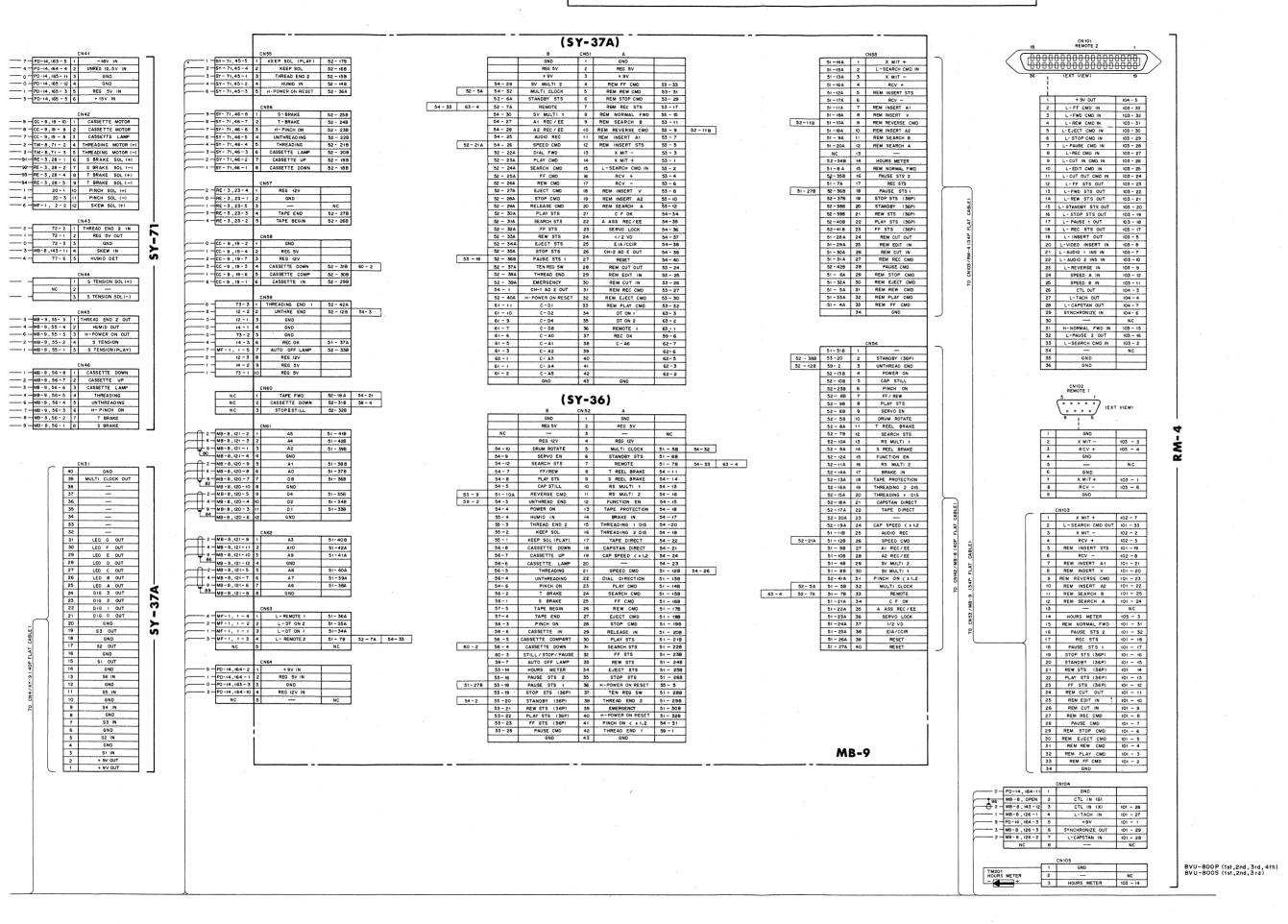
CN42

CC-9, 19-10 | 1 CASSETTE MO
CC-9, 19-9 | 2 CASSETTE MO
CC-9, 19-8 | 3 CASSETTE LE

TTM-8, 71-2 | 4 THREÊDING MOT
TRE-3, 28-1 | 6 S BRAKE SOL
RE-3, 28-2 | 7 S BRAKE SOL
RE-3, 28-5 | 9 T BRAKE SOL
RE-3, 28-5 | 9 T BRAKE SOL
RE-3, 28-5 | 1 PINCH SOL (
20-3 | 10 PINCH SOL (
20-3 | 11 PINCH SOL (
MF-1, 2-2 | 12 S S W SOL H

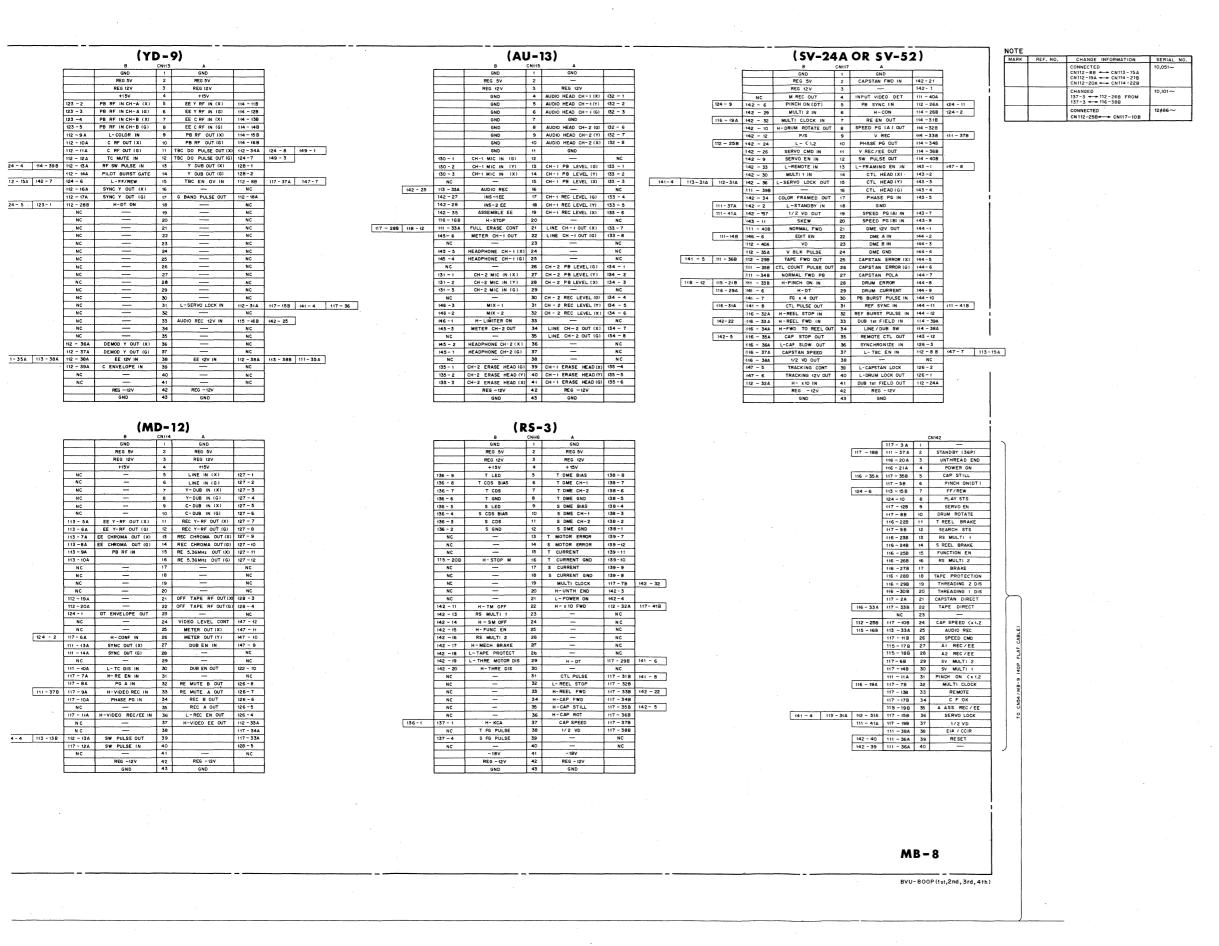
CN66

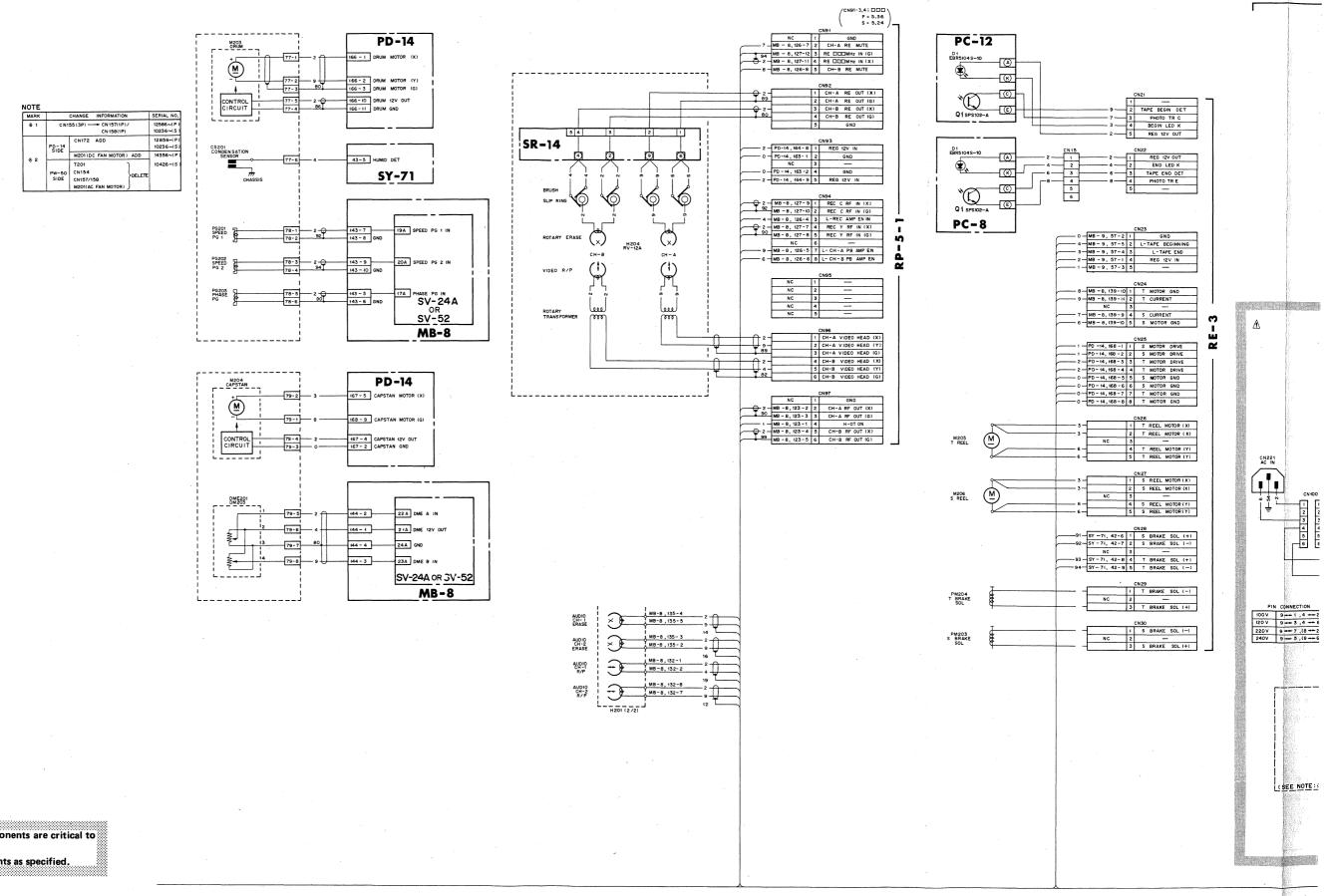
| MB-9,56-8 | | CASSETTE DO
| 2 | MB-9,56-7 | 2 | CASSETTE U
| 3 | MB-9,56-6 | 3 | CASSETTE LA
| 4 | MB-9,56-5 | 4 | THREADIN
| 6 | MB-9,56-3 | 6 | H | PINCH OI
| 7 | MB-9,56-3 | 6 | H | PINCH OI
| 8 | MB-9,56-2 | 7 | T | BRAKE
| 9 | MB-9,56-1 | 8 | SRAKE



RAME (3)

		<u> </u>		
CNHB	CN127	, CN139	(TC-13-1)	- <u> </u>
8 JOCN, 106-4 1 CH-1 MIX 146-4 77 JOCN, 106-5 2 CH-2 MIX 146-5 49 JOCN, 106-21 3 EXT SYNC (6) 1111-168 2 JOCN, 106-20 4 EXT SYNC (X) 1111-158 9 JOCN, 106-30 5 EXT EXT (X) 1111-128 40 JOCN, 106-10 6 TC OUT (6) 1111-128 2 JOCN, 106-9 7 TC OUT (X) 111-118	2 - JO CN , 106-59 1 LINE IN (X) 114-5A 99 JO CN , 106-60 2 LINE IN (6) 114-6A 144 JO CN , 106-17 4 Y DUB IN (6) 114-9A 46 JO CN , 106-18 5 C DUB IN (7) 114-9A JO CN , 106-18 6 C DUB IN (8) 114-9A	0 - P0 - 14 ,165 - 9 SND SND 1 - P0 - 14 ,165 - 2 2 REG SV 2 - P0 - 14 ,165 - 2 3 REG IZV 3 - P0 - 14 ,165 - 14 4 + P5V 2 - 13 - 2 5 REG IZV 3 - P0 - 15 - 1 6 SND SND IZV 5 S	GND 1 GND	GND GND REG 5V REG 12V +15V 123 - 2 PB RF IN CH - A IX 123 - 3 PB RF IN CH - A IG
2 - JOCK, JOS-9 7 TC OUT (X) 111-118 JOCK, JOS-49 8 TC IN (G) 111-108 2 - JOCK, JOS-49 9 TC IN (X) 111-98 JOCK, JOS-39 IO EXT SC IN (X) 112-98 9 JOCK, JOS-39 II EXT SC IN (G) 112-68 6 - PD-14, JOS-59 TE FULL ERASE CONT 111-338 115-218 117-288	2 - RP-5, 94-3 B REC Y RF OUT (6) 114-12A 2 - RP-5, 94-1 9 REC C RF OUT (7) 114-13A 92 - RP-5, 94-2 10 REC C RF OUT (6) 114-14A 2 - RP-5, 91-4 11 RE 4,278H± OUT (8) 114-15A 94 RP-5, 91-3 12 RE 4,278H± OUT (6) 114-16A	6 - RE - 3 , 24 - 5 B S CURRENT OND 116 - 18A 7 - RE - 3 , 24 - 4 9 S MOTOR CHURNENT 116 - 17A 8 - RE - 3 , 24 - 10 T CURRENT OND 16 - 16A 9 - RE - 3 , 24 - 10 T CURRENT OND 16 - 16A 9 - RE - 3 , 24 - 10 T MOTOR CURRENT 116 - 15A 94 - PO - 14 , 167 - 1 12 S MOTOR ERROR 116 - 14A	NC — 8 TC HEAD (6) 119 - 3 118 - 9 TC IN (X) 9 — NC 118 - 8 TC IN (G) 10 H - TC 114 - 308 118 - 7 TC OUT (X) 11 L-LESS THAN 1.2 142 - 31 118 - 6 TC OUT (G) 12 NC 118 - 5 EXT EN 13 VIDEO SYNC IN (X) 114 - 278	123 - 4 PB RF IN CH-B (X)
CN19 2 - TM-4, 75-5 1 TC HEAD (X) 111-6A 9 - TM-4, 75-6 2 TC HEAD (Y) 111-7A 82 TM-4, 75-7 3 TC HEAD (G) 111-8A CN120 NC 1 - 111-15A NC 2 - 111-16A	CN128	7 - P0 - 14 , 163 - 4 1 162 - 4 1 162 - 4 1 162 - 4 1 162 - 4 1 162 - 4 1 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4 162 - 4	117 - 228	112 - 15A
9 - M8-9, 61-11 3 D1 111 -17A 4 - M8-9, 61-10 4 D2 111 -18A 2 - M8-9, 61-12 6 GND 9 - M8-9, 61-12 6 GND 10 - M8-9, 61-17 7 D8 111 -20A 4 M8-9, 61-6 8 AO 111 -21A 2 - M8-9, 61-5 9 A1 111 -22A	CN129 6 - PD-14, 163-7 1 REG-12V 2 - PD-14, 165-8 3 REG 12V 0 - PD-14, 165-8 3 GND CN130 CN130 CN130 CN130	MC 3 REG 12V NC 4 — 117-15B 113-31A 112-31A 142-36 NC 5 — 117-25B 112-29B 111-36B NC 6 — 117-25B NC 7 — 117-30B NC 7 — 117-30B NC 8 — 117-31B 116-31A	NC — 22 A1 IN 120 - 9 NC — 23 A2 IN 121 - 1 NC — 24 121 - 2 NC — 25 121 - 3 NC — 26 121 - 5 NC — 27 121 - 6 NC — 28 121 - 7	NC
82 MB-9, 61-8 10 GNO 2 - MB-8, 144-10 11 PB BURST PULSE (X) 112-21A 192 MB-8, OPEN 12 GNO CM21 9 - MB-9, 61-3 1 A2 111-23A 2 - MB-9, 61-1 2 A5 111-24A	9 - JG CN, 106-2 2 CH-1 MIC IN (Y) 115-138 80 JG CN, 106-3 3 CH-1 MIC IN (9) 115-148 CN131 2 - JG CN, 106-40 1 CH-2 MIC IN (X) 115-278 9 - JG CN, 106-40 1 CH-2 MIC IN (Y) 115-288 68 JG CN, 106-40 2 CH-2 MIC IN (Y) 115-288	NC 10 REG -12V CN143 (- JOCN , 106-30) FRAMING EN IN 117-13A 147-8 T9 - TN-4 , 73-2 C CTL HEAD (Y) 117-14A	NC	NC
4 - M8-9, 61-2 3 A4 111-25A 80 M8-9, 61-4 4 GND 2 - M8-9, 62-5 5 A8 111-26A 9 M8-9, 62-5 6 A6 111-27A 4 M8-9, 62-6 7 A7 111-28A 80-9, 62-8 8 GND 2 - M8-9, 62-8 8 GND	CN132 2 - H201 (2/2) 1 1 CH-1 AUDIO MEAD (X) 115 - 4A 4 - H201 (2/2) 2 CH-1 AUDIO MEAD (Y) 115 - 5A H201 (2/2) 3 CH-1 AUDIO MEAD (G) 115 - 6A NC 4 GND NC 5 GND	2 - TM-4, 75-1 S CTL HEAD (X) 117-15A BO TM-4, 75-3 4 GND 2 - 78-5 5 PHASE PG (X) 117-17A 90 78-6 6 GND 2 - 78-1 6 GND 2 - 78-1 8 GND 2 - 78-2 8 GND 2 - 78-3 9 SPEED PG A 117-19A 92 78-2 8 GND 94 74-4 10 GND	141 - 5 117 - 288 TAPE FWO 36 RESET 142 - 39 142 - 40 114 - 338 117 - 9A VIDEO REC 37 L - STANDEY N 142 - 2 117 - 188 NC - 38 - H - EIA 142 - 2 117 - 188 117 - 188 NC - 39 PLAY STS 148 - 2 117 - 218 NORMAL FWO 40 INPUT VIDEO DET 117 - 4A 144 - 11 117 - 31A REF SYNC 41 172 VD IN 142 - 37 117 - 19B 144 - 12 VD IN 142 - 37 117 - 19B	112 - 35A
9 - MB-9, 62-3 IO A9 III-30A 6 MB-9, 62-2 II A10 III-31A 6 MB-9, 62-4 II2 GND CN122 6 JO CN, 106-29 I SLAVE DUB OV IN I12 - 30B	12 1201 (2/2) 6 CH-2 AUDIO HEAD (6) 115 - 8A 15 - 9A 1201 (2/2) 7 CH-2 AUDIO HEAD (7) 115 - 9A 1201 (2/2) 8 CH-2 AUDIO HEAD (X) 115 - 10A Chi33	74 - 4 10 GND 117 - 20B 3 - SY-71, 43 - 4 11 SKEW 117 - 20B 2 - RM-4, 104 - 3 112 REMOTE CTL OUT 117 - 35A CN144 79 - 6 1 DME VCC 117 - 21A	(CD-14) 8 CM12 A	GND (N
2 2 JOCN, 106 36 2 C DUB DUT (X) 112 - 318 JOCN, 106 -537 3 C DUB DUT (G) 112 - 328 2 2 JOCN, 106 -537 4 VIDEO 1 OUT (X) 112 - 338 JOCN, 106 -545 5 VIDEO 1 OUT (X) 112 - 348 JOCN, 106 -556 7 VIDEO 2 OUT (X) 112 - 358 JOCN, 106 -57 8 VIDEO 3 OUT (X) 112 - 358 JOCN, 106 -57 8 VIDEO 3 OUT (X) 112 - 378 JOCN, 106 -58 9 VIDEO 3 OUT (X) 112 - 388 JOCN, 106 -58 DUB EN 114 - 30A	9 - MF-1, 3-2 2 CH-1 PB LEVEL(Y) 115-14A 2 MF-1, 3-6 4 CH-1 PB LEVEL(X) 115-15A MF-1, 3-6 5 CH-1 PB LEVEL(X) 115-15A 2 - MF-1, 3-6 6 CH-1 REC LEVEL(G) 115-17A 2 - MF-1, 3-6 6 CH-1 REC LEVEL(X) 115-19A 2 - JO CN, 106-25 7 CH-1 AUDIO OUT (X) 115-21A CN134	2 - 79-5 2 DME A 117-22A 150-1 9-79-8 3 DME B 117-22A 150-2 80 79-7 4 DME GND 117-25A 150-2 8-79-7 4 DME GND 117-25A 150-2 8-8-70-14,167-8 7 CAP ERROR OUT (3) 117-25A 1-1-14-15-15-15-15-15-15-15-15-15-15-15-15-15-	GNO 1 GND GN	GNO REG 5V REG 12V This is a second of the second
CN123	64 MF-1, 3-9 1 CH-2 PB LEVEL (G) 115-26A 9 MF-1, 3-8 2 CH-2 PB LEVEL (Y) 115-27A 2 MF-1, 3-7 3 CH-2 PB LEVEL (X) 115-27A 66 MF-1, 3-12 4 CH-2 REC LEVEL (X) 115-20A 9 MF-1, 3-11 5 CH-2 REC LEVEL (Y) 115-30A 2 MF-1, 3-10 6 CH-2 REC LEVEL (Y) 115-31A 2 JO CN, 106-27 7 CH-2 AUDIO OUT (X) 115-34A 62 JO CN, 106-26 8 CH-2 AUDIO OUT (G) 115-35A	2 - MB-8, 128-5 12 REF BURST PULSE 117-32A CN145 94	NC 10 C FF IN (X) 113-10B NC 41 C FF IN (G) 113-11B NC 12 TC GATE OUT 113-12B NC 13 SW PULSE IN 113-13B 114-398 124-4 NC 14 PILOT BURST GATE 113-14B NC 15 L-FF/REW 113-15B 124-6 142-7 NC 16 SYNC Y IN (X) 113-16B NC 17 SYNC Y IN (3) 113-17B NC 18 G SAND PULSE IN 113-16B	NC 113 - 5A
NC 1 — 114 - 228 NC 2 — 114 - 268 117 - 6A NC 2 — 114 - 268 117 - 6A NC 3 — 112 - 64 NC 4 — 114 - 268 123 - 1 112 - 13A NC 5 — 112 - 268 123 - 1 113 - 188 NC 5 — 112 - 288 123 - 1 113 - 188 NC 6 — 113 - 155 142 - 7 NC 7 — 113 - 114 119 - 3 NC 8 — 113 - 114 112 - 344 149 - 1 NC 9 — 117 - 514 12 - 54	CN135 16 H201(2/2) 1 (CH-2 ERASE HEAD (6) 115 - 398 9 H201(2/2) 2 (CH-2 ERASE HEAD (7) 115 - 408 2 H201(2/2) 3 (CH-2 ERASE HEAD (X) 115 - 418 1 H201(2/2) 4 (CH-1 ERASE HEAD (X) 115 - 39A 1 H201(2/2) 5 (CH-1 ERASE HEAD (X) 115 - 40A 14 H201(2/2) 6 (CH-1 ERASE HEAD (X) 115 - 41A	91 — A1 METER 6 CH-1 METER 115-228 CN146 2 - MS-5(A), (2) 1 LIMITER ON/OFF 115-33B 4 - MS-5(B), (4) 2 MIX-2 115-32B 7 - MS-5(B), (1) 3 MIX-1 115-31B 9 - A0-2 , (9) 4 CH-1 MIX 118-1 3 - A0-2 , (2) 5 CH-2 MIX 118-2 8 - MS-5(C), (4) 6 EDIT EN 111-148 117-22B	NC	NC — NC — 112 - 19A — 112 - 20A — 124 - 1 DT ENVELOPE OUT NC — 124 - 2 117 - 6A M - CONF IN
NC 10 — 142-8 NC 11 — 112-26A 117-5A NC 12 GND CN125 CN125 NC 2 — NC NC 2 NC	4 - 13 - 3 XCA 116 - 378 137 - 1 0 - 17 - 1 2 5 6MD 116 - 128 116 - 128 1 1 - 17 - 4 3 S COS 116 - 118 1 2 - 17 - 2 4 S COS BIAS 116 - 108 1 3 - 17 - 3 5 S LED 116 - 98 1 0 - 18 - 1 6 T GND 116 - 88 1 6 - 18 - 4 7 T COS 116 - 78 1	6 - WL-1 , (6) 7 TC LAMP ORIVE 111-328 1 - WL-1 , (1) 8 REG 5V CN147 2 - MF-1 , (2) 1 REG 12V 0 - MF-1 , (3) 2 GND 0 - LV-1 , (3) 3 GND	113 - 188 124 - 5 123 - 1	111 - 13A SYNC OUT (X) 111 - 14A SYNC OUT (6) NC
2 - PD-14, 164-5 3 REG EV 2 - JO CN, 106-43 4 REG EV 1 - PD-14, 165-1 5 REG 5V 0 - PD-14, 165-6 6 GND 0 - PD-14, 165-7 7 GND 0 - JO CN, 106-8 8 GND CN126	7 - 18-2 8 T CDS BIAS 116-68 8 16-58 NC 10 NC NCS7 NC 1 RE5 V NC NCS NCS	6 - AO-2 , (6) 4 REG -12V 91 - TR VR 5 TRACKING CONT 117-398 92 - TR VR 6 TRACKING CUT 117-408 7 - M5-5ICI), (1) 7 TBC EN 117-37A 112-88 105-5ICI), (3) 9 FRAMING EN 117-37A 143-1 8 M5-5ICI), (3) 9 DUB EN 114-27A 1 - V METER 10 METER OUT (Y) 114-25A	122 - 6	NC
1 - RM-4_1046 1 DRUM_LOCK DUT 117-49A 2 = RM-4_104-7 2 CAP_LOCK DUT 117-39A 3 - RM-4_104-6 3 SYNCHRONIZE N 117-36A 4 - RP-5_194-3 4 REC EN 114-36A 9 - RP-5_94-7 5 REC A 114-36A 6 - RP-5_94-8 6 REC B 114-36A 7 - RP-5_94-8 7 REMUTE A 114-33A	NC 4 — 116 - 398 NC 5 GND CN138 EM-1, 11-2 1 S DME GND 116 - 12A 2 - EM-1, 11-1 2 S DME CH-2 116 - 11A 9 - EM-1, 11-4 3 S DME CH-2 116 - 11A	9 - LV-1 , (9) 12 VIDEO LEVEL CONT 114-24A CN148 2 - JO CN, 106-51 1 VIDEO 4 OUT (X) 112-398 -93- JO CN, 106-45 2 PLAY 5TS 111-39A 20 JO CN, 106-52 3 VIDEO 4 OUT (G) 112-408	GND 43 GND	GND
8 - RP-5 , 91-5 8 RE MUTE 8 114-32A	6 - EM-1, 11 - 5 16 - 9A 116	CN149 2 - JO CN, 106-12 1 DOC PULSE (X) 113-11A 112-34A 124-8 0 - JO CN, 106-13 3 DOC PULSE (G) 113-12A 124-7	CNISO NC 1	

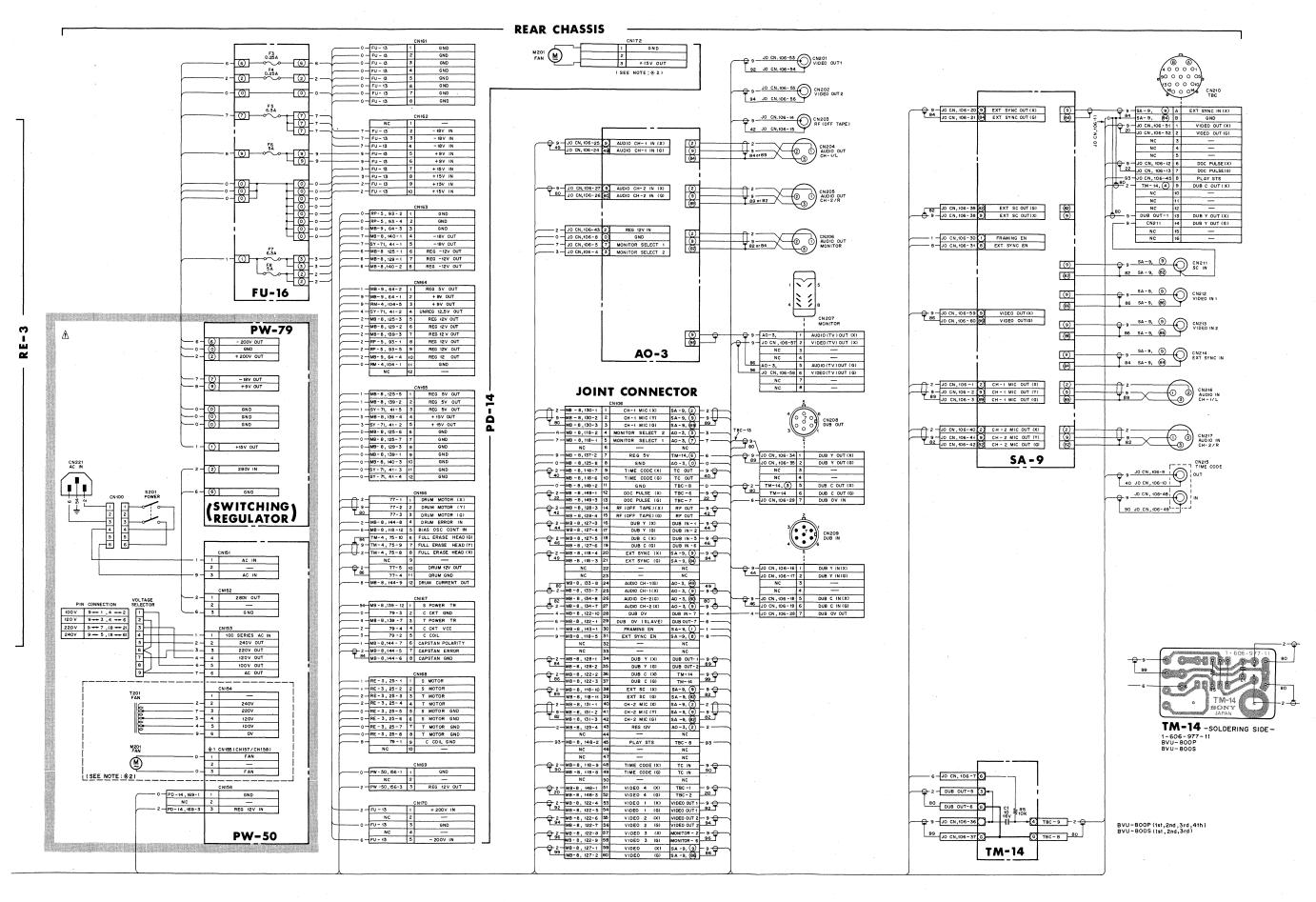




The shaded and A-marked components are critical to safety.

Replace only with same components as specified.

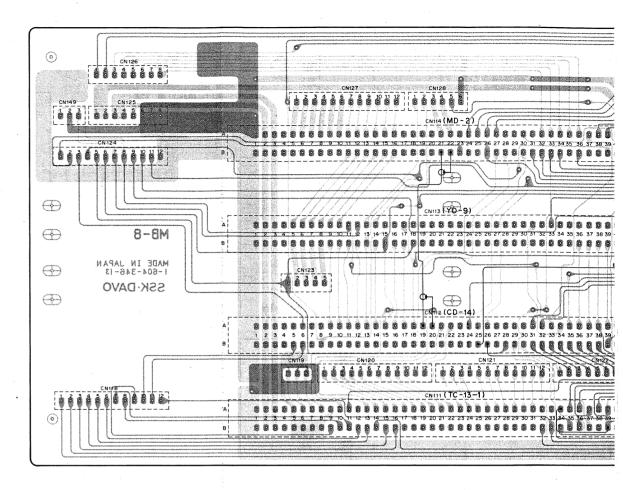
17-129

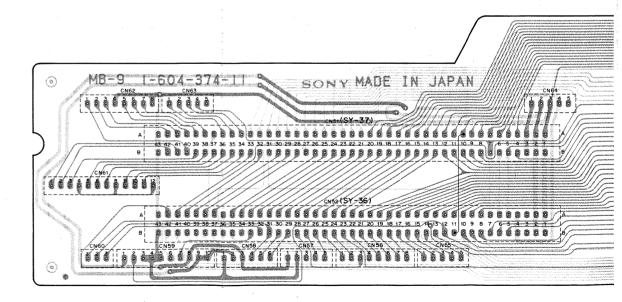


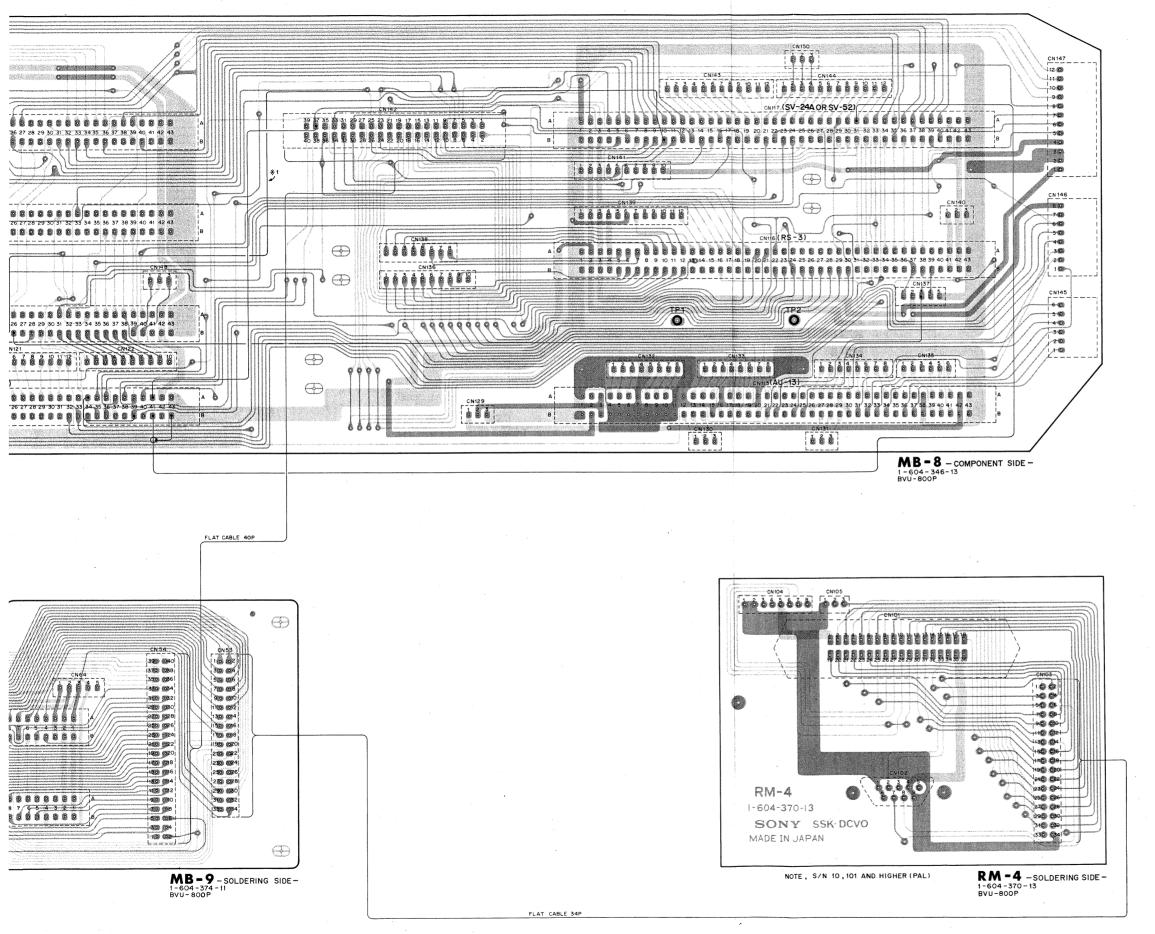
NOTE

MARK CHANGE INFORMATION SERIAL NO.

\$ 1 CONNECTED (CN112-258 ←→ CN117-10B)







SECTION 18 SPARE PARTS AND FIXTURE

18-1. PARTS INFORMATION

- 1. Safety Related Component Warning
 Components identified by shading marked with \bigwedge on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service bulletins and service manual supplements published by
- Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."
- This manual's exploded views and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present".
- Regarding engineering parts changes in our engineering department, refer Sony service bulletins and service manual supplements.
- 3. Printed Components in Bold-Face type on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.
- 4. Item with no part number and/or no description are not stocked because they are seldom required for routine service.
- 5. (T) after a spring description is shown on the exploded views in order to indicate the number of a spring turn required for the use.

(Example) Spring, tension (24T); This spring must be cut at its 24th turn for actual use.

18-2. EXPLODED VIEW

- Exploded views are composed of the following blocks.
 - (1) Reel Chassis (1)
 S, T reel table
 S, T main brake
 KCA/KCS detector
 6th guide.
 - (2) Supply Tension Detector Block
 Supply tension detector
 Supply tension regulator arm
 Tape end detector
 - (3) Take-up Tension Detector Block
 Take-up tension detector
 Unthread end detector
 Tape beginning detector

- (4) Threading Block
 Threading ring
 Threading slider
 Thread end 2 detector
 Ring drive gear
- (5) Threading Arm Block
 Threading arm
 Threading motor
 Thread end 1 detector
 V guide
- (6) Pinch Lever Block
 Pinch solenoid
 Pinch lever
- (7) Reel Chassis (bottom view)
 S tension solenoid
 S, T brake solenoid
 Reel motor
- (8) Drum Block

 Head drum

 Slip-ring

 Time code/erase head

 Audio/CTL head

 Capstan motor
- (9) Cassette-up Compartment Block
- (10) Control Panel Block
 Control panel
 Skew corrector
- (11) Function Control Panel Block
 Function control panel
 Key switch
 Search dial
 Hinge (R)
 Hinge (L)
- (12) Power Chassis Block
- (13) Connector Panel Block (1)
- (14) Connector Panel Block (2)
 Remote Connector
- (15) Chassis Block
 - Printed circuit board
- (16) Ornamental Panel Block (1)(17) Ornamental Panel Block (2)
 - Function control panel
 Control panel
- (18) Printed Circuit Board Shield case
- (19) Supplied Accessory
- Fixing Screw, Stop Ring and Others
 - (1) All the screws used in this machine are the TOTSU type unless otherwise noted. The screws are interchangeable with the Phillips type (⊕) and slotted type (⊝) screws.
 - (2) Please order as the following parts number when ordering the fixing screws, stop rings, and others.

SCREW

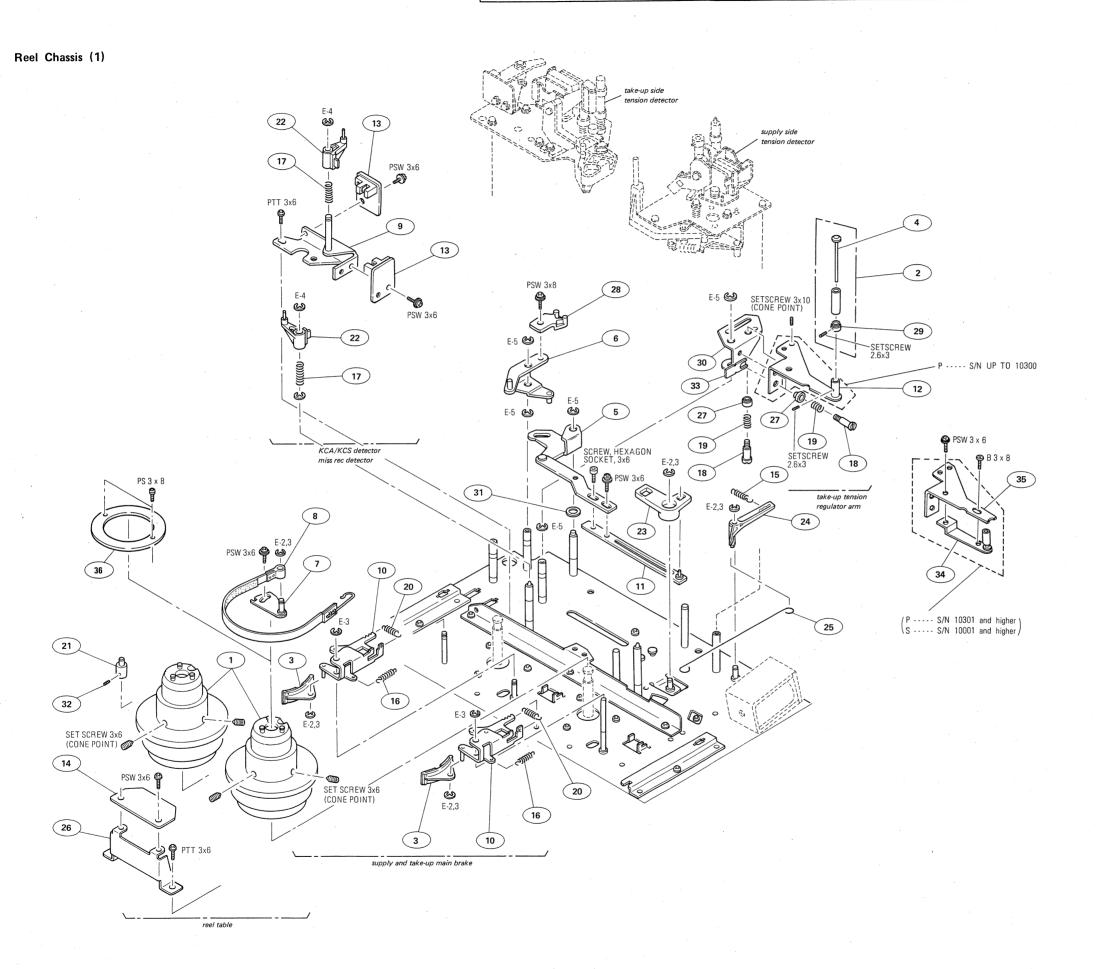
	PS	PSW	B (BZn N)	B (Cr-N)	PTT	PTTWH
	#			-	1	
2.6 x 4	7-621-972-05		7-621-912-10	7-621-912-18		Landa and California and California
2.6 × 6	7-621-972-25	7-621-981-15	7-621-912-30	7-621-912-38		
2.6 × 8	7-621-972-35	7-621-981-25	7-621-912-40	7-621-912-48		
3 x 5	7-686-446-01					
3 × 6	7-686-447-01	7-686-527-01	7-686-624-09	7-686-624-04	7-687-411-31	7-687-510-31
3 x 8	7-686-448-01	7-686-528-01	7-686-625-09	7-686-625-04	7-687-412-31	7-687-511-31
3 x 10	7-686-449-01	7-686-529-01	7-686-626-09	7-686-626-04	7-687-413-31	7-687-512-31
3 x 12	7-686-450-01	7-686-530-01	7-686-627-09	7-686-627-04	7-687-414-31	7-687-513-31
3 x 16	7-686-452-01	7-686-532-01	7-686-629-09	7-686-629-04		
3 x 20	7-686-453-01	7-686-533-01	7-686-630-09	7-686-630-04		
3 x 25	7-686-454-01	7-686-534-01	7-686-631-09	7-686-631-04		X 1
4 x 8	7-686-468-01	7-686-548-01	7-686-635-09	7-686-635-04		
4 x 12	7-686-470-01	7-686-550-01	7-686-637-09	7-686-637-04		
4 x 14	7-686-471-01		7-686-638-09	7-686-638-04		E-11-12-13-13-13-13-13-13-13-13-13-13-13-13-13-
4 × 16	7-686-472-01		7-686-639-09	7-686-639-04		
4 × 20	7-686-473-01		7-686-640-09	7-686-640-04		

	HEXAGON SOCKET SCREW	HEXAGON SET SCREW	(-) SET SCREW FLAT POINT	(-) SET SCREW CONE POINT	PTP WH
	⊕ □	⊕ □ □	◆ - = 3	⊕.==	
2.6 x 3		7-621-734-09			·
2.6 x 4	7-621-996-24	7-621-735-09			
2.6 x 5		7-621-736-09			
2.6 x 6	7-683-412-05			7-621-712-55	
2.6 × 8	7-683-413-05	-		7-621-712-65	<u> </u>
2.6 x 10				7-621-712-75	
3 x 5			7-683-175-01		
3 x 6	7-683-403-04		7-683-176-01	7-683-176-21	
3 x 8	7-683-404-04	3-701-509-01		7-683-177-21	7-687-246-11
3 x 10	7-683-405-04			7-683-178-21	

	FLAT WASHER SMALL W +	FLAT WASHER MIDDLE W.	SPRING WASHER SW. +	TOOTHED WASHER TYPE B LW.	HEXAGON NUT N. ⊕ 昔
2.6 mm	7-688-002-01	7-688-002-12	7-623-207-22	7-623-421-07	7-622-207-05
3 mm	7-688-003-01	7-688-003-12	7-688-003-11	7-623-422-07	7-684-023-04
4 mm	7-688-004-01	7-688-004-12	7-623-210-22	7-623-423-07	7-684-024-04
5 mm	7-688-005-01	7-688-005-01	7-623-212-22		7-684-025-04

	STOP RING E TYPE E.
2	7-624-104-04
2.3	7-624-105-04
3	7-624-106-04
4	7-624-108-04
5	7-624-109-04
6	7-624-110-04

REEL CHASSIS (1) REEL CHASSIS (1)

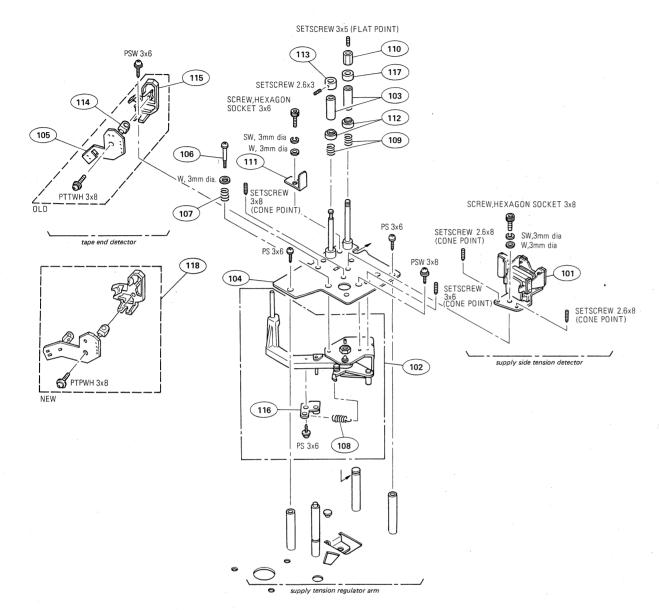


No.	Parts No.	Description
1	A-6739-027-A	TABLE ASS'Y S REEL
2	A-6746-017-A	ROLLER ASS'Y, 6G GUIDE
3	X-3642-166-0	SHOE ASS'Y
4	X-3668-001-0	GUIDE ASS'Y, 6G
5	X-3668-021-0	PLATE ASS'Y, ST
6 7 8 9	X-3668-025-0 X-3668-044-0 X-3668-045-0 X-3668-046-0 X-3668-047-0	ARM ASS'Y, DRAWER, 6G BRACKET SUB ASS'Y, TB BAND ASS'Y, BRAKE BRACKET SUB ASS'Y, S.D LEVER SUB ASS'Y, BRAKE
11	X-3668-050-0	PLATE ASS'Y, DRAWING
12	X-3668-051-0	BASE ASS'Y, GUIDE, 6G
13	1-604-348-00	PRINTED CIRCUIT BOARD, "PC-7"
14	A-6748-123-B	DME ASS'Y, "EM-1"
15	3-446-195-00	SPRING, TENSION
16 17 18 19 20	3-535-558-00 3-543-967-00 3-641-621-00 3-641-622-00 3-642-752-00	SPRING, TENSION SPRING, COMPRESSION SCREW, HEAD ADJUSTING SPRING, COMPRESSION SPRING, TENSION
21 22 23 24 25	3-668-031-00 3-668-032-00 3-668-033-00 3-668-034-00 3-668-036-00	RETAINER (UPPER), CASSETTE ACTUATOR, S.D ARM, DRAWER LEVER (1), S CHANGE ROD, PULL, S
26	3-668-037-02	BRACKET, R-DME
27	3-668-103-00	ROLLER, CAM
28	3-668-215-00	ARM (1), DRAWER, 6G
29	3-668-224-00	GUIDE (3) (LOWER), 6G
30	3-668-229-00	GUIDE (2), NO. 6
31	3-701-444-21	WASHER, POLY 6MM DIA. (0.5T)
32	3-701-506-01	SET SCREW, DOUBLE POINT 3x4
33	3-651-334-21	SPACER (0.1T)
34	X-3668-084-0	PLATE ASS'Y, ADJUSTING, 6G
35	3-668-223-02	BASE, GUIDE, 6G
36	3-672-979-01	PLATE, REEL TABLE

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SUPPLY TENSION DETECTOR TAKE-UP TENSION DETECTOR

Supply Tension Detector Block

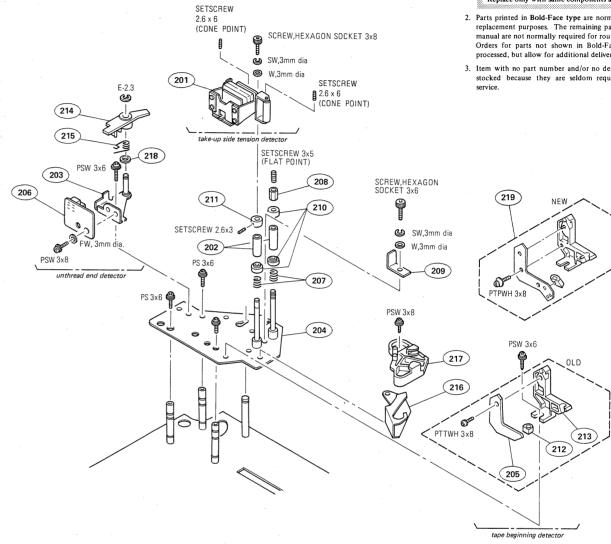


No.	Parts No.	Description	No.	Parts No.	Description
101	A-6742-036-B	DETECTOR (S) ASS'Y	111	3-668-072-00	STOPPER, T.D
102	A-6742-038-B	ARM ASS'Y, TENSION REGULATOR	112	3-668-073-00	FLANGE (1), G ROLLER
103	X-3668-005-0	ROLLER ASS'Y (1), GUIDE	113	3-668-074-00	FLANGE (2), G ROLLER
104	X-3668-040-0	BASE SUB ASS'Y, S-TD	114	3-668-076-00	SLEEVE, P TR
105	1-604-350-00	PRINTED CIRCUIT BOARD, "PC-8"		/PS/N U	JP TO 11490\
	/P S/N U	JP TO 11490\		\s s/N t	JP TO 10080
	(P S/N U S S/N U	JP TO 10080	115	3-668-089-00	CASE, S-PTR
	•			/P S/N U	JP TO 11490\
106	3-418-191-00	SCREW		(P S/N U S S/N U	JP TO 10080/
107	3-428-132-00	SPRING, COMPRESSION			
108	3-140-194-XX	SPRING, TENSION (27T)	116	3-668-094-00	BRACKET, T.S
109	3-537-213-00	SPRING, COMPRESSION	117	3-668-471-00	FLANGE (3), G ROLLER
110	3-641-616-00	NUT, TAPE GUIDE ADJUSTMENT	118	A-6742-046-A	MOUNT, "PC-8"
				/P S/N 1	1491 AND HIGHER\
					0081 AND HIGHER

Take-up Tension Detector Block

Parts No.

Description



201 202	A-6742-034-A X-3668-005-0	DETECTOR (T) ASS'Y ROLLER ASS'Y (1), GUIDE	211 212	3-668-074-00 3-668-076-00	FLANGE (2), G ROLLER SLEEVE, P TR
203	X-3668-022-0	BASE ASS'Y, END, UT		/P S/N U	JP TO 11490\
204	X-3668-032-0	BASE SUB ASS'Y, T-TD		\s s/N u	JP TO 10080/
205	1-604-352-00	PRINTED CIRCUIT BOARD, "PC-12"	213	3-668-077-00	CASE, T-PTR
	/P S/N U	JP TO 11490\		/PS/N L	JP TO 11490\
	\S S/N (JP TO 10080)		\S S/N L	JP TO 10080/
			214	3-668-219-00	SENSOR, END, UT
206	1-604-354-00	PRINTED CIRCUIT BOARD, "EK-2"	215	3-668-220-00	SPRING
207	3-537-213-00	SPRING, COMPRESSION			
208	3-641-616-00	NUT, TAPE GUIDE ADJUSTMENT	216	3-668-252-00	HOLDER, 5G
209	3-668-072-00	STOPPER, T.D	217	3-668-442-00	HOLDER (2), 5G
210	3-668-073-00	FLANGE (1), G ROLLER	218	3-701-439-11	WASHER, POLY, 3 MM DIA, 0.25T
			219	A-6742-047-A	MOUNT, "PC-12"
				/P S/N 1	1491 AND HIGHER\
				\S S/N 1	0081 AND HIGHER

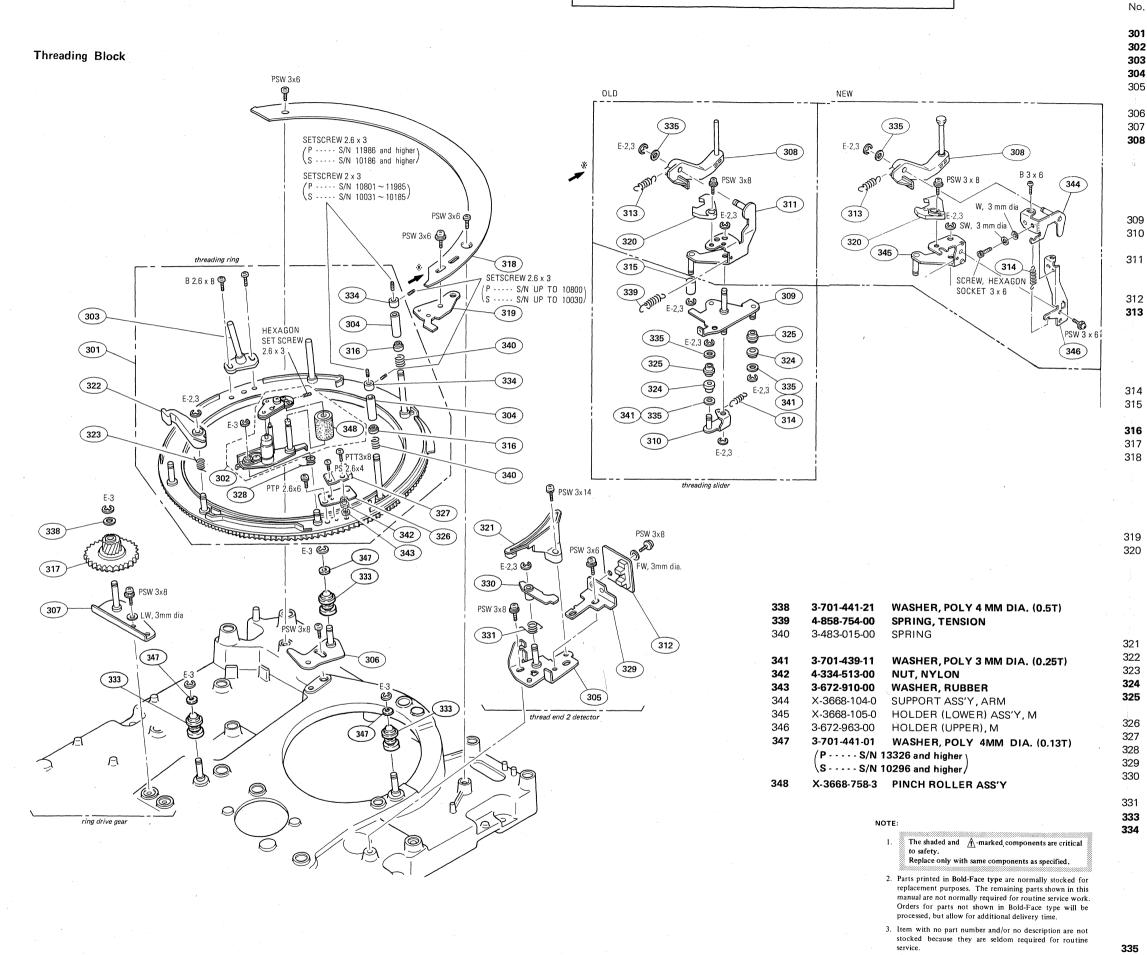
Parts No.

Description

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THREADING

THREADING

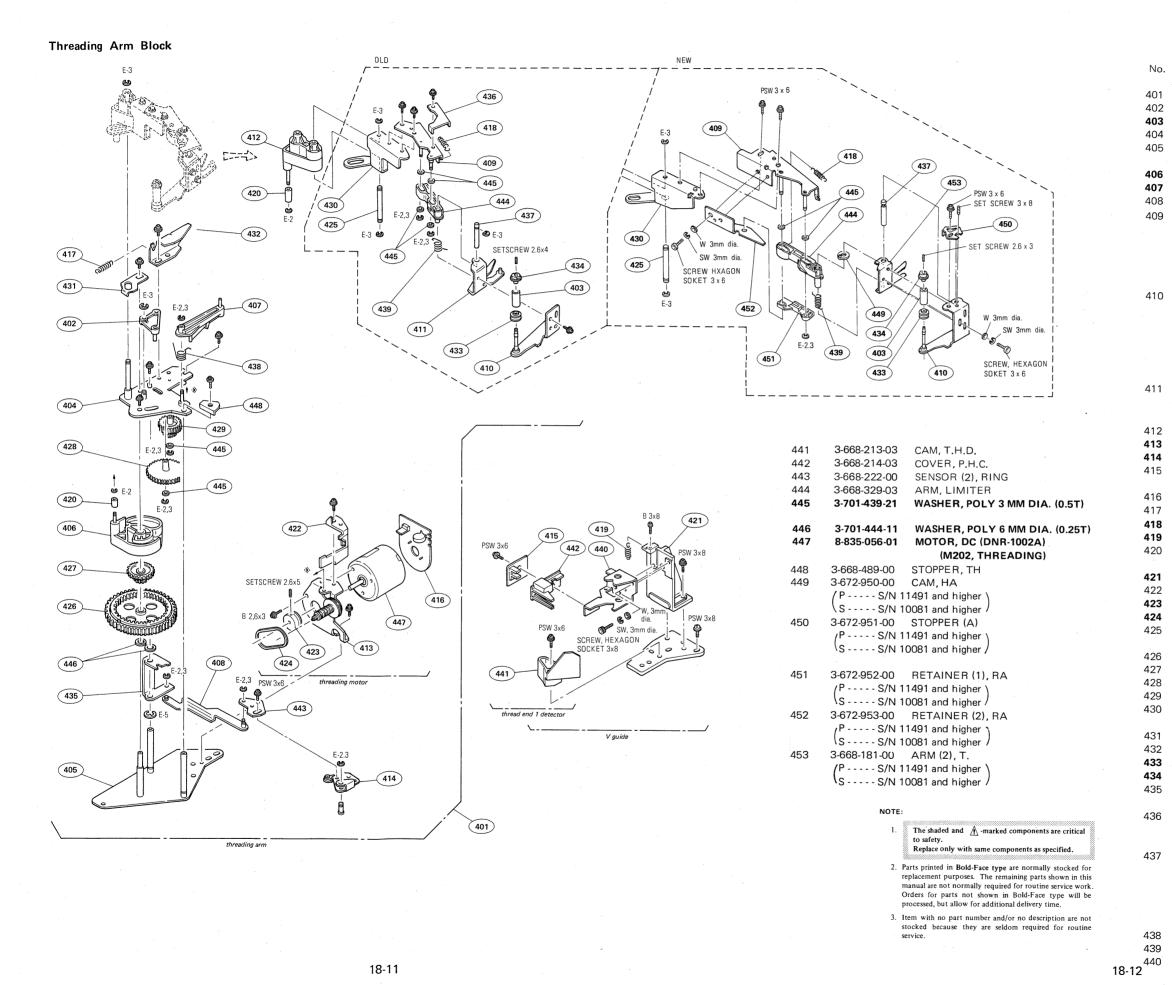


INO.	rarts No.	Description
301 302 303 304 305	A-6750-112-H A-6750-113-G X-3668-004-0 X-3668-005-0 X-3668-009-0	RING ASS'Y, THREADING ARM ASS'Y, PINCH SPACER ASS'Y, GUIDE ROLLER ASS'Y (1), GUIDE CHASSIS ASS'Y, END
306 307 308	X-3668-023-0 X-3668-052-0 (PS/N / SS/N L	Jp to 10105 /
	/ P S/N 1	ARM ASS'Y, T.H. 1646 and higher 0106 and higher
309 310	X-3668-053-0	BASE ASS'Y, M TABLE ASS'Y, ROLLER
311 312	(P S/N L S S/N L 1-604-354-00	p to 10105 / PRINTED CIRCUIT BOARD, "EK-2"
313	/ P S/N U	
	(PS/N 1 (SS/N 1	SPRING TENTION 1646 and higher 0106 and higher
814 815	3-506-042-XX 3-642-410-00	SPRING, TENSION (22T) ROLLER
116 117 118 119 220 21 222 223 224	3-668-234-00 (PS/N U 3-668-234-02 (PS/N 11 3-668-235-00 3-668-235-00 3-668-245-00 (PS/N U 3-668-245-03 (PS/N 11	p to 11490) p to 10080 / RAIL (2) 1491 and higher) 0081 and higher / STOPPER, M PLATE (2), M-T.H p to 11645)
26 27 28 29 30	3-668-256-03 3-668-257-03 3-668-261-00 3-668-282-00 3-668-283-00	PLATE, BASE SPRING, LEAF SPRING, TORSION BRACKET, PC SENSOR, END
31 33 34	3-668-437-00 (P · · · · · S/N Up S · · · · · S/N Up 3-668-437-02 (P · · · · · S/N 10 3-668-437-03 (P · · · · · S/N 11 S · · · · · S/N 10	ROLLER, RING FLANGE (UPPER), ROLLER to to 10800 to 10030 FLANGE (UPPER), ROLLER 801 ~ 11985 031 ~ 10185 FLANGE (UPPER), ROLLER 986 and higher

Parts No.

Description

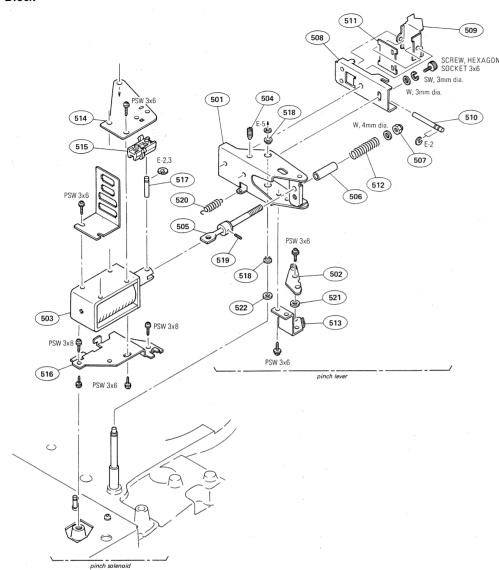
THREADING ARM THREADING ARM



No.	Parts No.	Description
401 402	A-6750-119-A	THREADING ASS'Y, T.
402	X-3668-002-0 X-3668-006-0	LEVER ASS'Y, R.C. ROLLER ASS'Y (2), GUIDE
404	X-3668-011-0	BASE (UPPER) ASS'Y, BLOCK, GEAR
405	X-3668-012-0	BASE (LOWER) ASS'Y, BLOCK, GEAR
406	X-3668-013-0	CAM ASS'Y, M
407	X-3668-014-0	ARM ASS'Y, ROTARY
408		LEVER ASS'Y, RG
409	/ P S/N U	ARM ASS'Y, THREADING
	SS/N U	JP TO 10490
		ARM ASS'Y, THREADING
		1491 and higher \
410		0081 and higher /
410	X-3668-017-0 / P S/N U	ARM (1) ASS'Y, T.
	SS/N U	
		ARM (1) ASS'Y, T.
	(PS/N 1	1491 and higher
	\ S S/N 1	0081 and higher)
411	X-3668-018-0	ARM (2) ASS'Y, T.
	(P S/N U S S/N U	
412	•	•
413		HOLDER ASS'Y, T.H. BRACKET ASS'Y, MOTOR
414	X-3668-099-0	
415	1-604-355-00	PRINTED CIRCUIT BOARD, "EK-3"
416	1-604-364-00	PRINTED CIRCUIT BOARD, "TM-8"
417	3-540-226-00	SPRING, TENSION
418 419	3-486-135-XX 3-630-419-XX	SPRING, TENSION (13T) SPRING, TENSION (16T)
420	3-642-410-00	ROLLER
421	3-642-474-00	BRACKET, ARM
422	3-668-171-02	COVER, WORM
423	3-668-172-00	PULLEY (3), LM
424	3-668-173-00	BELT (3), LM
425	3-668-184-00	SHAFT, ARM, S
426	3-668-185-00	GEAR, RING
427 428	3-668-186-00 3-668-187-00	GEAR GEAR, MIDWAY
429	3-668-188-00	WHEEL
430	3-668-190-03	ARM (1), THREADING
431	3-668-191-00	STOPPER, END, T.
432	3-668-192-04	CAM, UNTHREAD
433	3-668-193-03	FLANGE (LOWER), GUIDE
434 435	3-668-194-00 3-668-195-00	FLANGE (UPPER), GUIDE STOPPER, U.T
436	3-668-196-00 / P S/N UI	STOPPER, ARM, T.
	SS/N UI	
437	3-668-197-00	PIN, CENTER
	(P S/N UI	
	\ S S/N UI	
	3-668-197-02 / P S/N 11	491 and higher \
	SS/N 10	
438	3-668-198-00	SPRING
439	3-668-199-03	SPRING
440	3-668-212-00	GUIDE, V

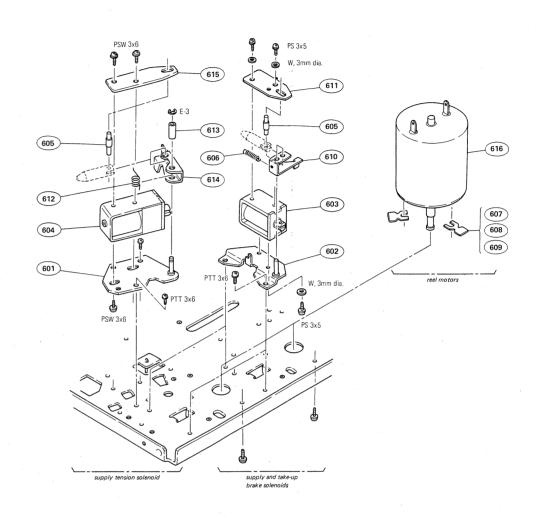
PINCH LEVER REEL CHASSIS (BOTTOM VIEW)

Pinch Lever Block



No.	Parts No.	Description	No.	Parts No.	Description
501	X-3668-007-0	PINCH LEVER SUB ASS'Y	511	3-668-277-00	SPRING
502	X-3668-008-0	PLATE ASS'Y, ROLLER, CAM	512	3-668-278-00	SPRING, COMPRESSION
503	1-454-276-00	SOLENOID (PINCH, PM205)	513	3-668-279-00	BASE, CAM ROLLER
504	3-642-805-00	SCREW, ADJUSTING	514	3-668-289-00	REINFORCEMENT
505	3-648-054-00	ROD, PLUNGER JOINT	515	3-668-290-00	GUIDE, SHAFT
506	3-648-056-00	SPACER, 4X18	516	3-668-291-00	BRACKET, SOLENOID
507	3-648-057-00	NUT (ISO-4), U	517	3-668-292-00	SHAFT, SOLENOID
508	3-668-273-00	PINCH LEVER (B)	518	3-668-294-00	SPACER, PINCH
509	3-668-274-00	PINCH LEVER (C)	519	3-701-508-00	SET SCREW, DOUBLE POINT 3X6
510	3-668-276-00	SHAFT	520	3-701-788-XX	SPRING, TENSION (48T)
			521	3-701-440-11	WASHER, POLY, 3.5 MM DIA, 0.25T
			522	3-701-444-11	WASHER, POLY, 6 MM DIA, 0.25T

Reel Chassis (bottom view)



No.	Parts No.	Description
601	X-3668-048-0	BRACKET SUB ASS'Y, KS
602	X-3668-049-0	BRACKET SUB ASS'Y, BP
603	1-454-278-00	SOLENOID (BRAKE) (PM203, 204)
604	1-454-279-00	SOLENOID (S. TENSION, PM201)
605	3-645-051-03	PIN, D-PINCH PLUNGER
606	3-645-392-00	SPRING, TENSION
607	3-651-334-01	SPACER, REEL MOTOR (0.02T)
608	3-651-334-11	SPACER, REEL MOTOR (0.05T)
609	3-651-334-21	SPACER, REEL MOTOR (0.1T)
610	3-668-043-00	ARM, BP

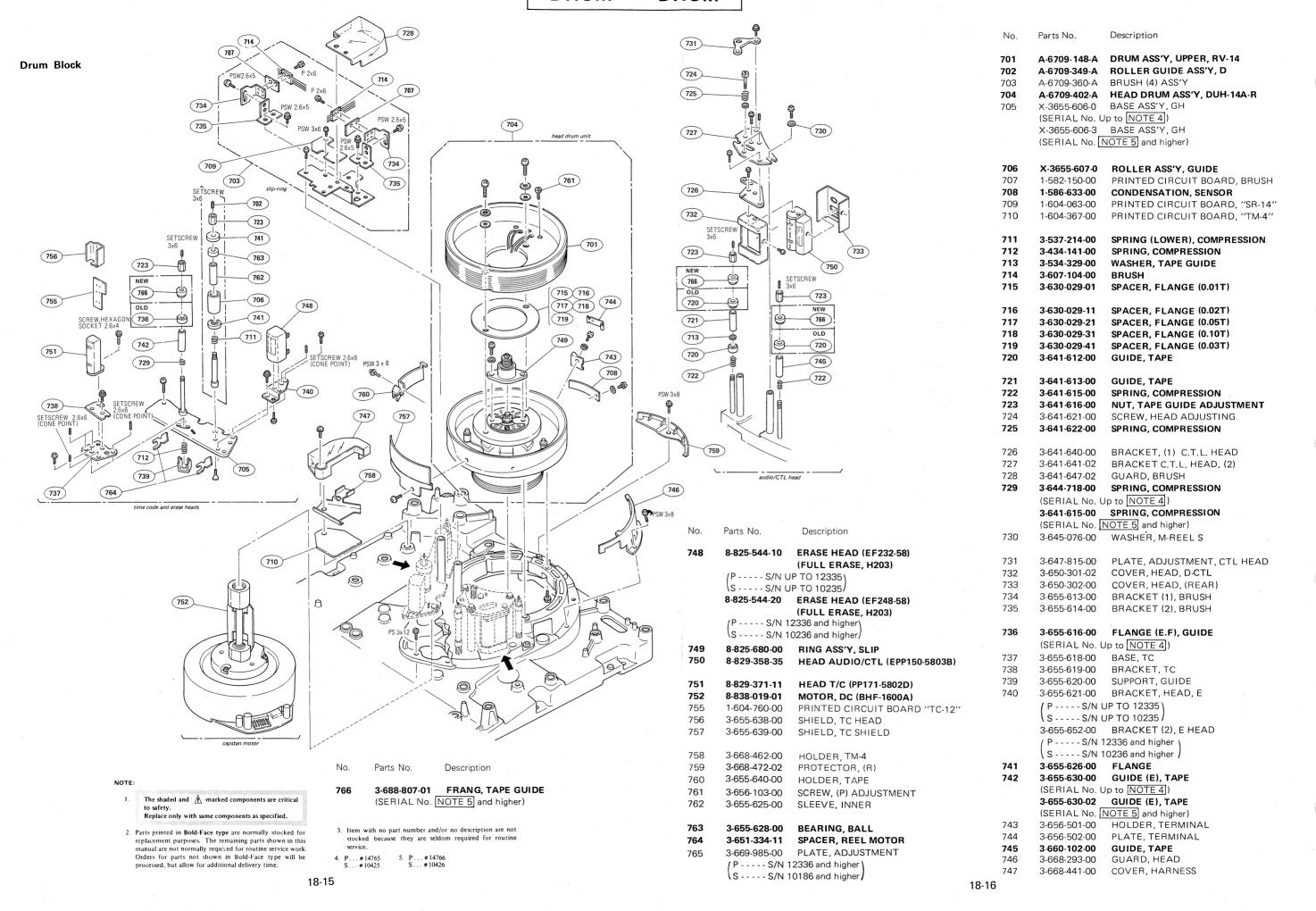
616	8-835-050-01	MOTOR, DC (MNR-4400A) (REEL, M206, 207)
615	3-668-050-00	PLATE, GUIDE, KS
614	3-668-049-00	LEVER, KS
613	3-668-048-01	SPACER (DIA. 4x12)
612	3-668-047-00	SPRING
611	3-668-044-00	GUIDE, BP
No.	Parts No.	Description

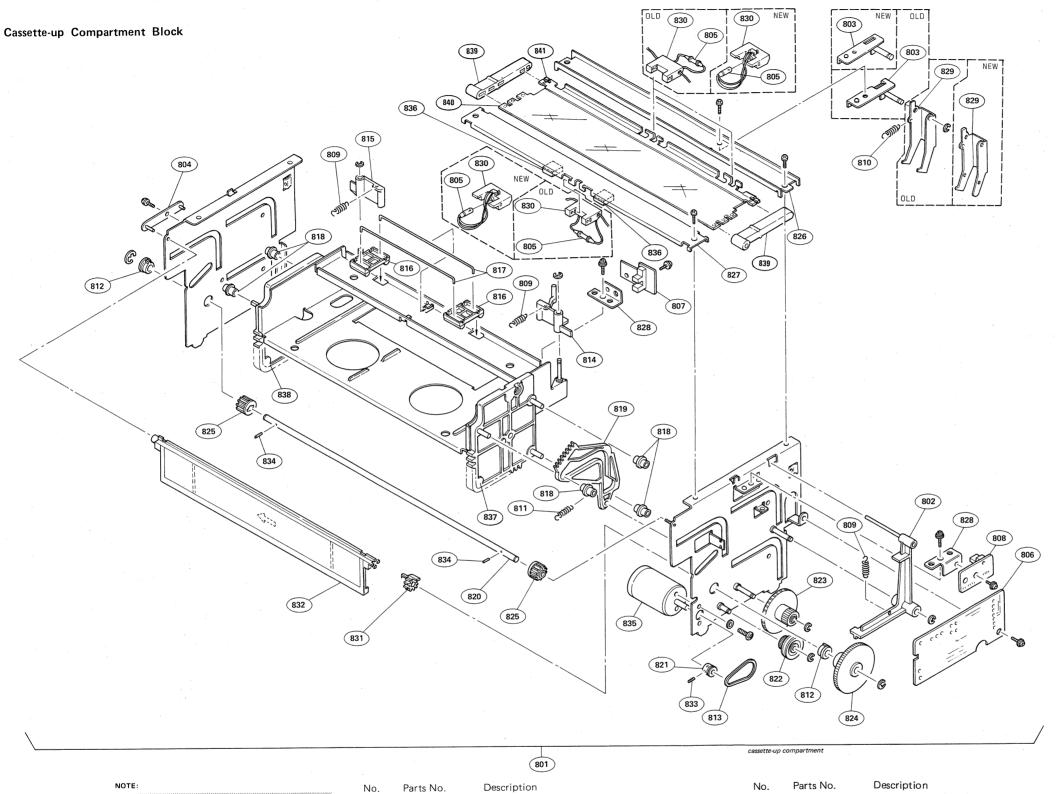
NOT

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DRUM DRUM





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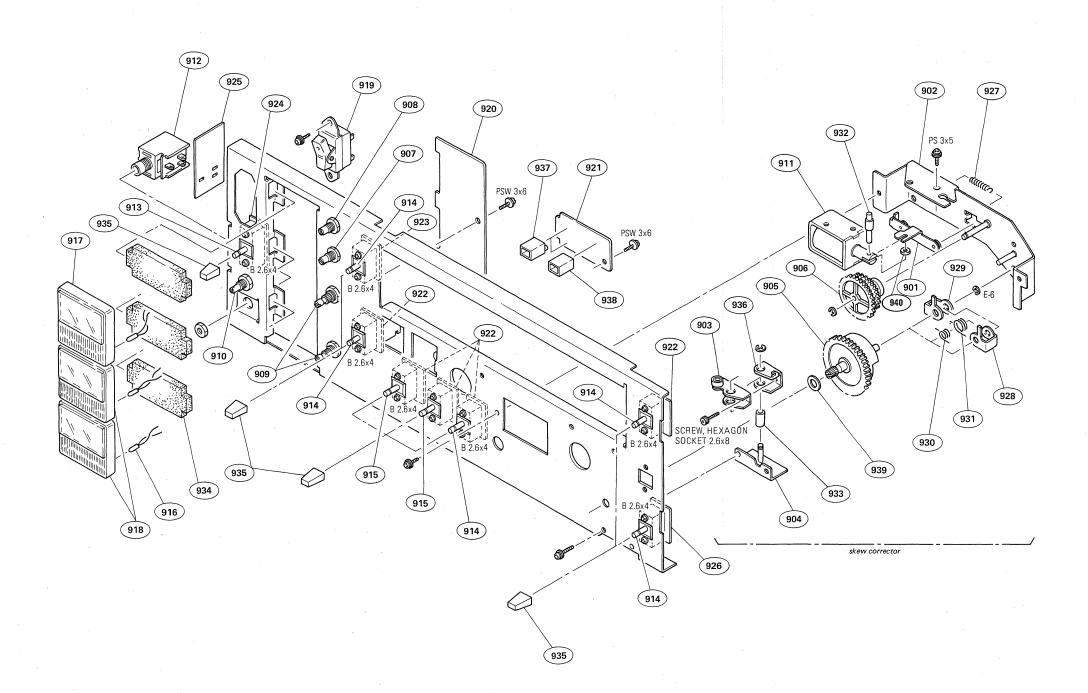
No.	Parts No.	Description	1
836		CUSHION, LID 11491 AND HIGHER 10081 AND HIGHER/	8 8
837	X-3668-057-0	CASECON ASS'Y, RACK (RIGHT)	8
838	X-3668-058-0	CASECON ASS'Y, RACK (LEFT)	
839	3-668-313-02	FRAME, SUPPORT, REFLECTOR	
840	3-672-604-11	REFLECTOR	

3-672-639-03 BRACKET, LAMP

No.	Parts No.	Description
831	3-668-315-02	GEAR, LID
832	3-668-371-00	LID, CASSETTE
833	3-701-506-01	SET SCREW, DOUBLE POINT 3x4
834	3-703-358-00	PIN, PARALLEL (DIA. 2x8)
835	8-835-055-01	MOTOR, DC (DNR-4700A)
		(CASSETTE, M207)

No.	Parts No.	Description
801 802 803 804 805	X-3668-059-2 X-3668-060-0 (P S/N U/S S/N U/S S/N 11 X-3668-060-2 (P S/N 11 X - 3668-060-3 (P S/N 11 X - 3668-061-0 1-518-455-00 (P S/N U/S	TO 11230) TO 10080) HOLDER ASS'Y, ARM 1231 ~ 11490) 0081 ~ 10080) HOLDER ASS'Y, ARM 1491 AND HIGHER) 0081 AND HIGHER) SUPPORT ASS'Y, LID LAMP, PILOT (PL207, 208, 209)
806	1-604-429-00	PRINTED CIRCUIT BOARD, "CC-9"
807	1-604-430-00	PRINTED CIRCUIT BOARD, "CC-10"
808	1-604-431-00	PRINTED CIRCUIT BOARD, "CC-11"
809	3-507-051-00	SPRING, TENSION.
810	3-534-217-00	SPRING, TENSION
811 812 813 814 815	3-536-780-00 3-668-474-00 3-653-387-00 3-668-295-00 3-668-296-00	SPRING, TENSION BEARING BELT, LM LEVER (RIGHT), CASSETTE PUSH-OUT LEVER (LEFT), CASSETTE PUSH-OUT
816 817 818 819 820	3-668-297-00 3-668-298-00 3-668-299-00 3-668-300-00 3-668-301-00	RETAINER, CASSETTE SPRING ROLLER, GUIDE CAM, LID OPEN SHAFT, DRIVING
821 822 823 824 825	3-668-302-00 3-668-303-00 3-668-304-00 3-668-305-00 3-668-306-00	PULLEY, MOTOR GEAR (A) GEAR (B) GEAR (C) GEAR (D)
826 827 828 829	\S S/N 1 3-668-308-03 3-668-309-00 3-668-310-00 \(\begin{array}{cccccccccccccccccccccccccccccccccccc	JP TO 11230 JP TO 10080 JOINT (R) 1231 AND HIGHER 0081 AND HIGHER JOINT (F) BRACKET, SWITCH ARM, LID OPENER JP TO 11490 JP TO 10080 ARM, LID OPENER 1491 AND HIGHER 0081 AND HIGHER HOLDER, LAMP Jp to 11490
	/ P S/N 1	Jp to 10080 / HOLDER, LAMP 1491 and higher 0081 and higher /

Control Panel Block



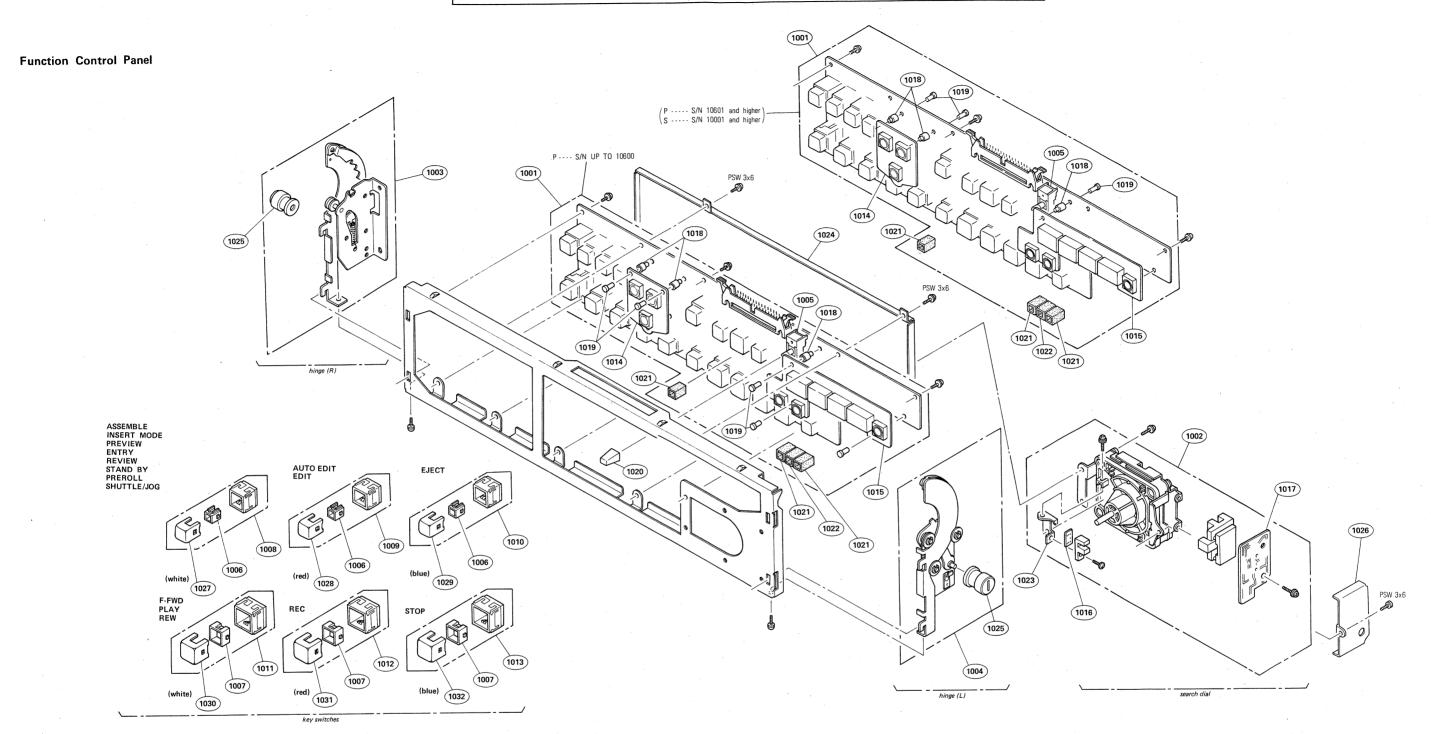
No.	Parts No.	Description
		· ·
901	X-3668-030-0	PLATE ASS'Y, LOCK, SK
902	X-3668-031-0	SUPPORT ASS'Y, SK
903	X-3668-033-0	LEVER (2) ASS'Y, S
904	X-3668-034-0	BRACKET ASS'Y, LEVER, S
905	X-3668-035-0	GEAR (3) ASS'Y, CLUTCH
906	X-3668-036-0	CLUTCH ASS'Y, SK
907	1-224-691-XX	R, VAR, CARBON 10K
908	1-226-616-00	R, VAR, CARBON 100K
909	1-228-140-00	R, VAR, CARBON 20K/20K
910	1-228-218-00	R, VAR, CARBON 500/500 (RV1)
911	1-454-278-00	SOLENOID (SKEW, PM202)
912	1-507-553-00	JACK, JM-60 M-13S
913	1-516-963-00	SWITCH, LEVER SLIDE
914	1-516-994-00	SWITCH, LEVER SLIDE
915	1-516-995-00	SWITCH, LEVER SLIDE
916	1-518-461-00	LAMP, PILOT
917	1-520-438-00	METER, VIDEO (VIDEO/RF, ME201)
918	1-520-439-00	METER, VU (AUDIO CH-1: ME202,
		AUDIO CH-2: ME203)
		!
∞ <u> </u>	1-553-159-00	SWITCH, ROCKER (POWER, S201)
920	1-604-365-00	PRINTED CIRCUIT BOARD. "MF-1"
921	1-604-366-00	PRINTED CIRCUIT BOARD, "WL-1"
922	1-604-368-00	PRINTED CIRCUIT BOARD, "MS-5"
923	1-604-371-00	PRINTED CIRCUIT BOARD, "LV-1"
924	1-604-375-00	PRINTED CIRCUIT BOARD, "AO-2"
925	1-604-378-00	PRINTED CIRCUIT BOARD, "HP-5"
926	1-604-511-00	PRINTED CIRCUIT BOARD, "PR-33"
927	3-537-219-00	SPRING, TENSION
928	3-642-403-00	LEVER
929	3-642-404-00	LEVER
930	3-642-405-00	SPRING
931	3-642-679-00	SPRING
932	3-645-051-03	PIN, D-PINCH PLUNGER
933	3-654-603-11	SPACER, 3×11
934	3-668-022-00	CUSHION, METER
935	3-668-028-00	KNOB (SMALL), LEVER SWITCH
936	3-668-111-00	LEVER (1) S
		LEVER (1), S HOLDER, LAMP
937	3-668-123-00	·
937 938	3-668-124-00	HOLDER, LED
937 938 939	3-668-124-00 3-701-444-21	HOLDER, LED WASHER, POLY 6MM DIA. (0.5T)
937 938	3-668-124-00 3-701-444-21 3-701-433-21	HOLDER, LED WASHER, POLY 6MM DIA. (0.5T) WASHER, POLY 5MM DIA, (0.5T)
937 938 939	3-668-124-00 3-701-444-21	HOLDER, LED WASHER, POLY 6MM DIA. (0.5T) WASHER, POLY 5MM DIA, (0.5T) 2576 ~ 13325\

NOTE

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FUNCTION CONTROL FUNCTION CONTROL



No.	Parts No.	Description	No.	Parts No.	Description	No.	Parts No.	Description
1001	A-6717-205-A	MOUNTED CIRCUIT BOARD, "KY-9"	1011	1-553-551-12	SWITCH, KEY	1021	3-668-123-00	HOLDER, LAMP
1002	A-6734-106-A	DIAL ASS'Y, SEARCH	1012	1-553-551-22	SWITCH, KEY	1022	3-668-124-00	HOLDER, LED
1003	A-6736-030-A	HINGE (L) ASS'Y	1013	1-553-551-32	SWITCH, KEY	1023	3-668-151-00	BRACKET, PC14
1004	A-6736-031-A	HINGE (R) ASS'Y	1014	1-604-347-00	PRINTED CIRCUIT BOARD, "KY-14"	1024	3-668-327-00	COVER, KEY PANEL
1005	1-516-994-00	SWITCH, LEVER SLIDE	1015	1-604-349-00	PRINTED CIRCUIT BOARD, "DP-9"	1025	3-668-407-00	NUT, LOCK
1006	1-518-450-31	LAMP, PILOT	1016	1-604-351-00	PRINTED CIRCUIT BOARD, "PC-9"	1026	3-668-417-00	COVER, PROTECTION, PC9
1007	1-518-450-21	LAMP, PILOT	1017	1-604-353-00	PRINTED CIRCUIT BOARD, "PC-14"	1027	3-706-480-01	KEY TOP (WHITE)
1008	1-554-318-11	SWITCH, KEY	1018	3-659-487-00	HOLDER, BUZZER	1028	3-706-480-12	KEY TOP (RED)
1009	1-554-318-21	SWITCH, KEY	1019	3-659-488-00	PIN, BUZZER HOLDER	1029	3-706-480-22	KEY TOP (BLUE)
1010	1-554-318-31	SWITCH, KEY	1020	3-668-028-00	KNOB (SMALL), LEVER SWITCH	1030	3-706-481-01	KEY TOP (WHITE)

Parts No.

Description

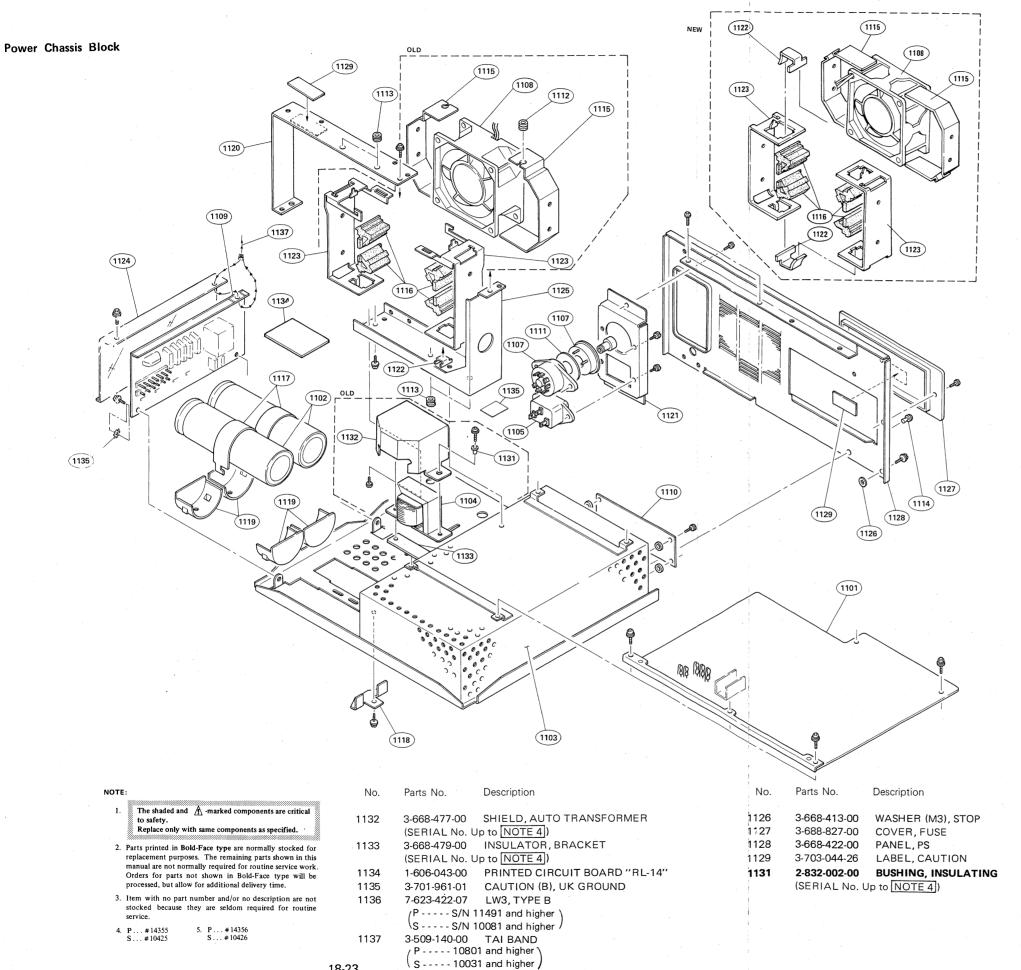
1031 1032

3-706-481-11 KEY TOP (RED) 3-706-481-22 KEY TOP (BLUE)

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POWER CHASSIS

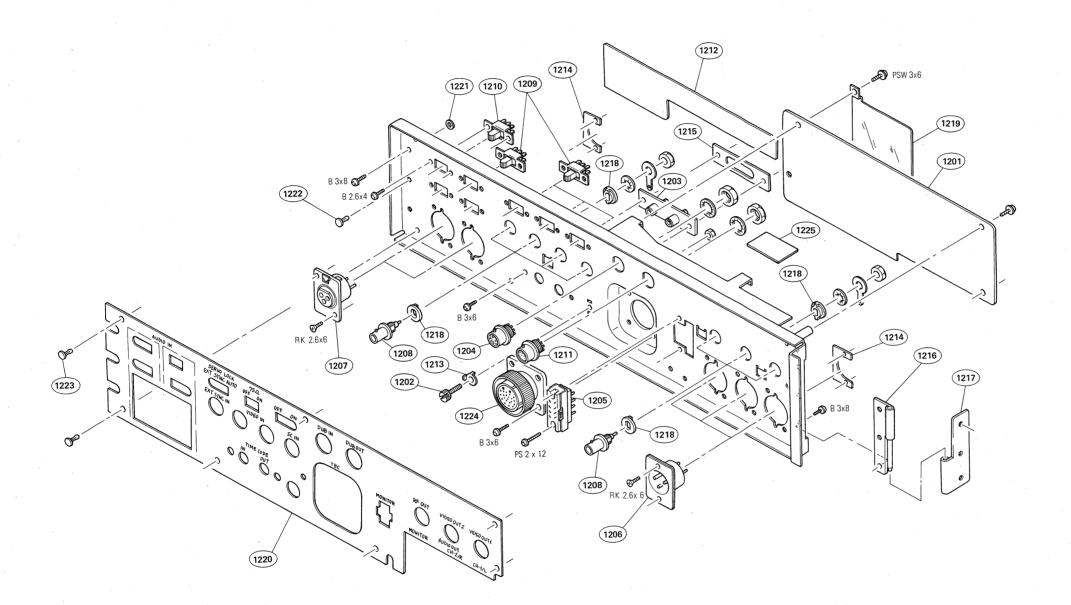
POWER CHASSIS



No.	Parts No. Description
<u> 1101</u>	A-6723-158-C MOUNTED CIRCUIT BOARD, "PD-14"
1102	1-125-250-00 C, ELECT 3300MF
<u>∱</u> 1103	1-413-071-21 SWITCHING REGULATOR
<u></u> 1104	1-446-938-00 TRANSFORMER (FAN, T201)
	(SERIAL No. Up to NOTE 4)
<u> 1105</u>	1-509-546-00 3P INLET (AC IN, CN221)
<u></u> 1107	1-526-572-00 SOCKET, POWER VOLTAGE SELECT
<u>^</u> 1108	1-541-104-00 BLOWER (FAN, M201)
	(PS/N Up to 12585) SS/N Up to 10235)
<u></u> 1108	1-541-104-51 BLOWER (FAN, M201)
	(PS/N 12586 ~ 14355)
1108	\S S/N 10236 ~ 10425/ 1-541-264-11 BLOWER (FAN, M201) (SERIAL No. NOTE 5 and higher)
1109	1-604-363-00 PRINTED CIRCUIT BOARD, "PW-50" (PS/N Up to 12585)
	\S S/N Up to 10235/ 1-604-363-16 PRINTED CIRCUIT BOARD, "PW-50"
	(P S/N 12586 ~ 14355) (S S/N 10236 ~ 10425)
	1-604-363-17 PRINTED CIRCUIT BOARD, "PW-50" (SERIAL No. NOTE 5 and higher)
1110	1-605-936-00 PRINTED CIRCUIT BOARD, "FU-16"
1111 1112	2-232-802-00 SEAL 3-470-019-00 BUSHING, RUBBER
1113	(SERIAL No. Up to NOTE 4) 3-564-017-00 CUSHION, MOTOR
1114	3-646-090-11 RIVET, NYLON
1115	3-650-271-00 PLATE, SHIELD, FAN (SERIAL No. Up to NOTE 4)
	3-672-994-01 PLATE, SHIELD, FAN (SERIAL No. NOTE 5] and higher)
1116	3-650-272-00 ABSORBER, VIBRATION, FAN
1117	3-668-154-00 BAND, C
1118	3-668-155-00 RETAINER, C
1119 1120	3-668-157-00 RETAINER, C 3-668-158-00 FRAME (B), FAN
1121	3-668-159-00 BRACKET, V.S
1122 1123	3-668-164-00 FASTENER, F 3-668-367-00 HOLDER, FAN
1123	(SERIAL No. Up to NOTE 4)
	3-672-995-01 HOLDER, FAN
4.04	(SERIAL No. NOTE 5] and higher)
1124	3-668-369-00 PROTECTOR, PW

1125 3-668-370-00 FRAME (A), FAN

Connector Panel Block (1)



No.	Parts No.	Description
1201 1202 1203 1204 1205	A-6713-106-A X-2068-004-0 1-507-142-XX 1-508-945-00 1-509-095-00	MOUNTED CIRCUIT BOARD, "AO-3" TERMINAL ASS'Y 2P PIN JACK (TIME CODE IN/OUT, CN215) RECEPTACLE, 7P (MALE) (DUB IN, CN209) 8P MULTI SOCKET (MONITOR, CN207)
1206 1207 1208	1-509-184-00 1-509-891-00 (P S/N U S S/N U 1-561-781-21 (P S/N 1	p to 14595
1209 1210	1-516-777-XX	SLIDE SWITCH SLIDE SWITCH
1211 1212 1213 1214 1215	1-604-377-00 2-068-008-00	PLATE NUT, XLR
1216 1217 1218 1219 1220		HINGE (B) SPACER, BNC Up to 14595
1221 1222 1223 1224 1225		WASHER (M3), STOP RIVET, T TYPE RIVET NYLON, 3.5 RECEPTACLE, 18P, FEMALE (TBC, CN210) PRINTED CIRCUIT BOARD, TM-14

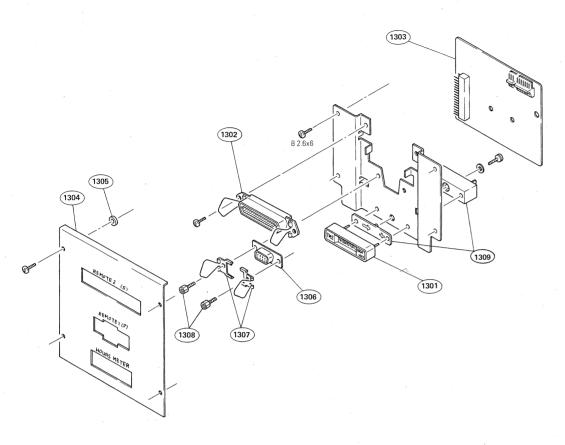
NOTE

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 Replace only with same components as specified.
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- 3. Item with no part number and/or no description are not stocked because they are seldom required for routine

CONNECTOR PANEL (2) CHASSIS

Connector Panel Block (2)

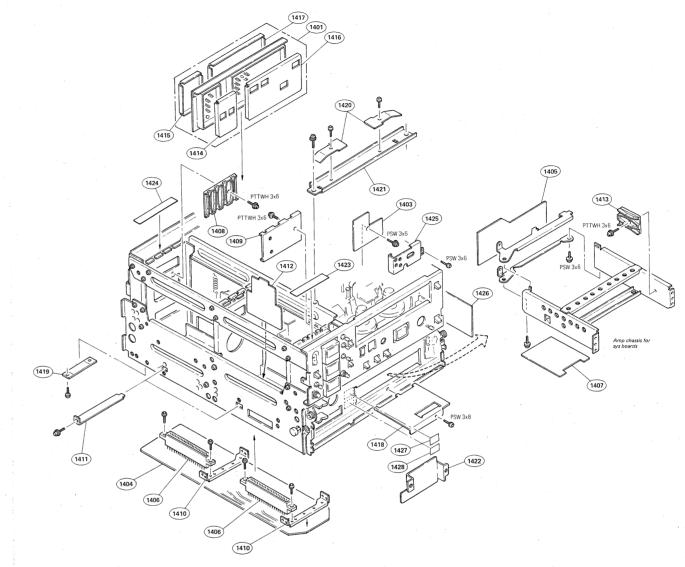


No.	Parts No.	Description
1301	1-548-141-41	TIMER (HOURS METER, TM201)
1302	1-561-028-00	CONNECTOR, 36P (REMOTE 2, CN101)
1303	1-604-370-00	PRINTED CIRCUIT BOARD, "RM-4"
1304	3-668-343-00	PANEL (RIGHT LOWER), CONNECTOR
1305	3-668-413-00	WASHER (M3), STOP
1306	1-561-655-00	CONNECTOR, 9P (REMOTE 1, CN102)
1307	3-668-460-00	SPRING
1308	3-668-459-00	SCREW, CONNECTOR
1309	1-526-829-31	SOCKET, TIMER

NOTE

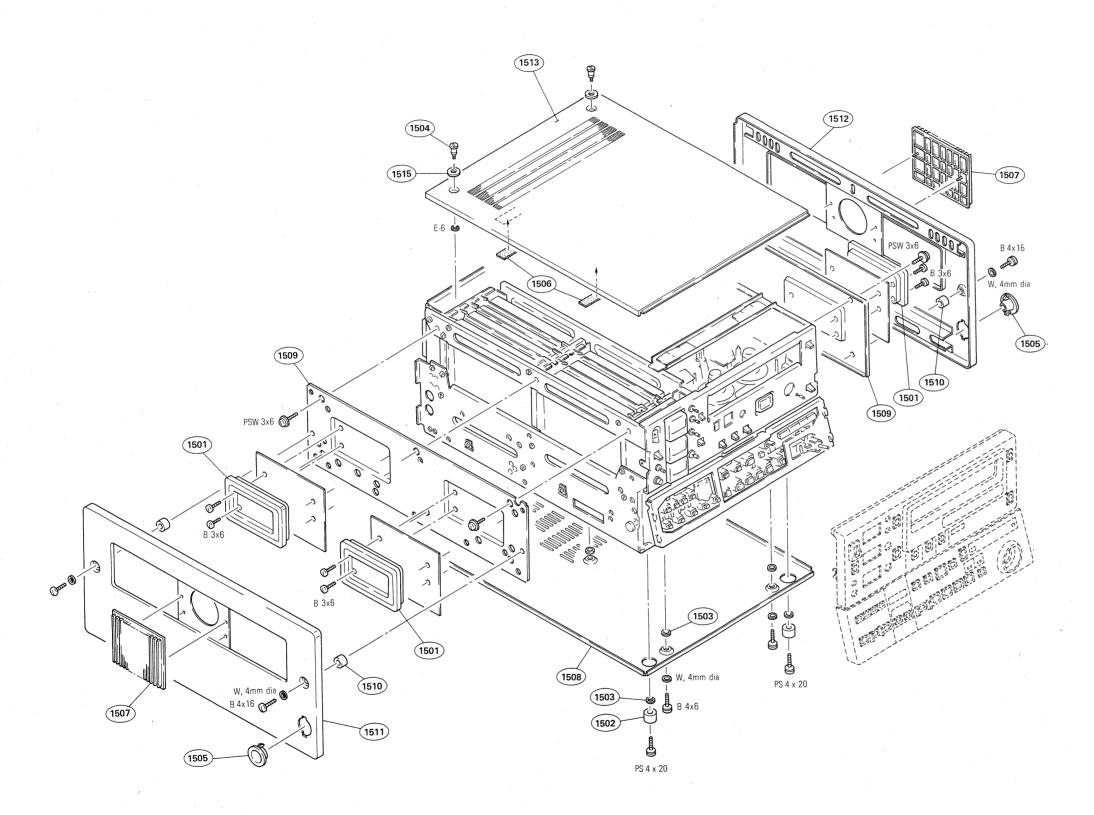
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Chassis Block



No.	Parts No.	Description	No.	Parts No.	Description
1401	A-6711-322-A	MOUNTED CIRCUIT BOARD, "RP-5-1"	1416	3-668-361-00	COVER, UPPER, SHIELD CASE (B)
1403	A-6725-227-B	MOUNTED CIRCUIT BOARD, "RE-3"	1417	3-668-362-00	COVER, LOWER, SHIELD CASE (B)
1404	A-6728-470-A	MOUNTED CIRCUIT BOARD, "MB-8"	1418	3-668-423-00	RETAINER (FRONT), FC
1405	A-6728-238-A	MOUNTED CIRCUIT BOARD, "MB-9"	1419	3-668-424-00	RETAINER (REAR), FC
1400	7.07202007.		1420	3-668-425-00	SPRING
1406	1-561-654-00	CONNECTOR, 86P			
1407	3-668-119-00	PROTECTOR, MB-9	1421	3-668-426-00	STAY, CASSETTE, COMPARTMENT
1408	3-668-129-02	GUIDE (3), PC BOARD	1422	3-668-433-02	COVER, FRONT
1409	3-668-130-00	GUIDE (4), PC BOARD	1423	3-668-438-00	LABEL (1), PC BOARD
1410	3-668-131-02	BRACKET (A), CN	1424	3-668-439-00	LABEL (2), PC BOARD
1410	3-000-101-02		1425	3-668-440-00	PROTECTOR, RE
1411	3-668-132-00	BRACKET (B), CN			
1412	3-668-133-00	PROTECTOR, MB-8	1426	A-6717-208-A	MOUNTED CIRCUIT BOARD, "SY-71"
1413	3-668-134-00	GUIDE (2), PC BOARD	1427	3-668-485-00	LABEL (3), PCB
1414	3-668-138-00	COVER, UPPER, SHIELD CASE (A)	1428	3-668-486-00	LABEL (4), PCB
1415	3-668-139-00	COVER, LOWER, SHIELD CASE (A)			

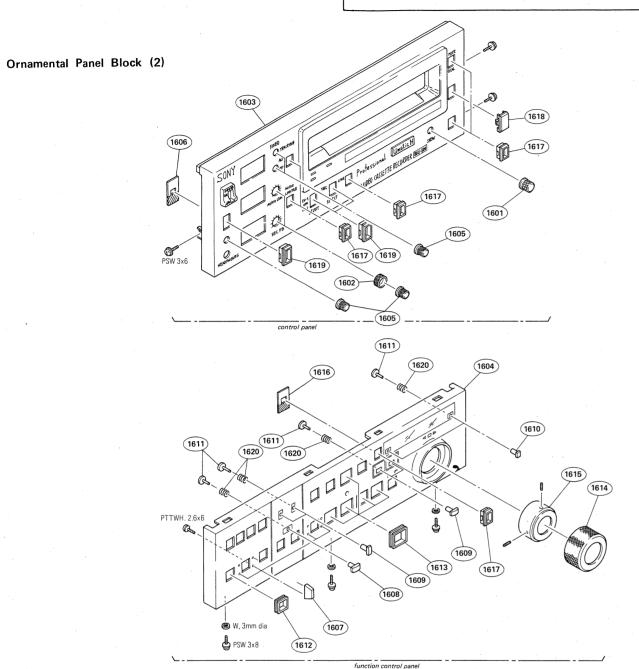
Ornamental Panel Block (1)



Na	Dorta No	Description
NO.	rarits inc.	Description
1501	X-3642-018-0	HANDLE ASS'Y
1502	3-642-656-01	FOOT
1503	3-650-537-00	WASHER
1504	3-668-024-00	SCREW, COIN, CABINET
1505	3-668-025-06	ESCUTCHEON, HINGE STOPPER
1506	3-668-026-04	RETAINER,PC
1507	3-668-335-00	ORNAMENT, SIDE PLATE
1508	3-668-375-00	PLATE, BOTTOM
1509	3-668-382-00	BRACKET, HANDLE
1510	3-668-416-00	SPACER, BRACKET, M4
		the second second
1511	3-668-418-04	PLATE, SIDE, LEFT
1512	3-668-419-04	PLATE, SIDE, RIGHT
1513	3-668-420-04	LID, UPPER
1515	3-418-179-11	WASHER, WHEEL
	/ P S/N L	JP TO 11230 \
	SS/N L	JP TO 10080)
	1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513	1501 X-3642-018-0 1502 3-642-656-01 1503 3-650-537-00 1504 3-668-024-00 1505 3-668-025-06 1506 3-668-025-06 1508 3-668-335-00 1509 3-668-375-00 1509 3-668-382-00 1510 3-668-416-00 1511 3-668-418-04 1512 3-668-419-04 1513 3-668-420-04 1515 3-418-179-11

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ORNAMENTAL PANEL (2) PRINTED CIRCUIT BOARD



				ar or parior	
No.	Parts No.	Description	No.	Parts No.	Description
1601	X-3651-342-0	KNOB ASS'Y, CONTROL	1611	3-668-009-02	PIN, PUSH BUTTON
1602	X-3668-056-0	KNOB (W) ASS'Y, CONTROL	1612	3-668-010-00	ESCUTCHEON (12), BUTTON
1603	X-3668-079-2	PANEL (P) SUB ASS'Y, FRONT (FOR P)		/PS/N	Up to 11645 \
1603	X-3668-087-0	PANEL (S) SUB ASS'Y, FRONT (FOR S)		\S S/N	Up to 10135/
1604	X-3668-068-3	PANEL SUB ASS'Y, KEY		3-675-892-00	ESCUTCHEON, BUTTON (SMALL)
	/PS/N L	Jp to 11645\		1 .	11646 and higher
	\SS/N (· · · •		\S S/N	10136 and higher
	•	PANEL SUB ASS'Y, KEY	1613	3-668-011-00	ESCUTCHEON (17), BUTTON
		11646 and higher\		/PS/N	Up to 11645
	1	10136 and higher		\S S/N	Up to 10135/
1605		KNOB ASS'Y, CONTROL		3-675-891-00	ESCUTCHEON, BUTTON (LARGE)
1000					11646 and higher
1606	2-252-623-02	PLATE, SWITCH, LEVER		\S S/N	10136 and higher
1607	3-657-986-00	GUARD, REC	1614	3-668-012-00	RUBBER, DIAL KNOB
1608	3-668-006-02	PUSH BUTTON (15X8)	1615	3-668-013-00	KNOB, DIAL
1609	3-668-007-02	PUSH BUTTON (5X9)			
1610	3-668-008-02	PUSH BUTTON (3X5)	1616	3-668-015-00	PLATE (SMALL), SWITCH, LEVER
			1617	3-668-016-00	FRAME (SMALL), ORNAMENTAL
			1618	3-668-017-02	FRAME (MIDDLE), BLIND, SWITCH
			1619	3-668-018-00	FRAME (MIDDLE), ORNAMENTAL
			1620	4-309-349-00	SPRING, COIL
		18	8-31		

Printed Circuit Board MD-12 BOARD (FOR P) MD-13 BOARD (FOR S) OLD (1701) SV-24A or SV-52 BOARD AU-13 BOARD 1701 Parts No. Description X-3668-082-2 CASE ASS'Y, (A) SHIELD 1701 (P-----S/N Up to 12855) S-----S/N Up to 10235) 1702 2-251-622-00 LEVER, PC BOARD

YD-9 BOARD CD-14 BOARD (FOR P) CD-15 BOARD (FOR S) TC-13-1 BOARD OLD SY-36 BOARD SY-37/37A BOARD

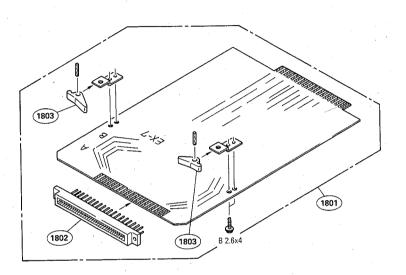


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 Replace only with same components as specified.
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SUPPLIED ACCESSORY

Supplied Accessory



No.	Parts No.	Description
1801	A-6724-244-A	EXTENSION BOARD ASS'Y, EX-7
1802	1-561-654-00	CONNECTOR, CARD, 86P
1803	2-251-622-00	LEVER, PC BOARD

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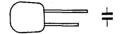
18-3. ELECTRICAL PARTS LIST

Parts that are \underline{not} listed in the "reference numbers order list" are shown in following table.

Reference numbers are omitted.

SILVERED MICA CAPACITOR

1 pF through 620 pF ± 5%, 50WV



Parts No. 1-107-□□□-00

Value	Parts No.	Value	Parts No.
1 pF	098	15 pF	065
2	099	16	066
3	100	18	067
4	101	20	068
5	102	22	069
6	103	24	070
7	104	27	071
8	105	30	072
9	106	33	073
10	061	36	074
11	062	39	075
12	063	43	076
13	064	47	077

Value	Parts No.
51 pF	078
56	079
62	080
68	081
75	082
82	083
91	084
100	085
110	086
120	087
130	088
150	089
160	090

V	alue	Parts No.
, 18	30 pF	091
20	00	092
22	20	093
24	10	094
27	70	095
30	00	096
33	30	097
36	50	231
39	90	232
gg. 4 3	30	233
47	70	234
51	0	235
5€	50	236
62	20	237

CERAMIC CAPACITOR

 $0.001\mu \text{F}$ through $0.1\mu \text{F}$ 50WV

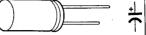


Parts NO. 1-161-□□□-00

Value	Parts No.	Substitute
0.001 μF	039	(1-102-074-00)
0.0012	040	
0.0015	041	
0.0018	042	
0.0022	043	(1-102-100-00)
0.0027	044	
0.0033	045	
0.0039	046	(1-102-124-00)
0.0047	047	
0.0056	048	
0.0068	049	
0.0082	050	
0.0002	000	

Value	Parts No.	Substitute
0.01 μF	051	(1-101-118-00)
0.012	052	
0.015	053	
0.018	054	
0.022	055	(1-101-005-00)
0.027	056	
0.033	057	
0.039	058	
0.047	059	(1-101-006-00)
0.056	060	
0.068	061	
0.082	062	
0.1	063	

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Parts No. 1-123-□□-00 -

Value		Parts No.
0.47µF	50V	
	100	379
1	50	
	100	380
2.2	50	
	100	381
3.3	25	44.7
	35	
	50	
	100	382
4.7	25	
	35	
	50	\$**
	63	369
10	10	6.7
	16	15.5
	25	
	35	;
	50	356
22	16	
	25	330

Value		Parts No.
22µF	35V	342
	50	
	63	371
33	6.3	
	10	i
1 - 1/12	16	318
e()/'s	25	37 1
	35	343
	50	183
	63	372
47	6.3	0.89
	10	306
	16	500
. Y 25	25	332
	35	**
	50	359
100	6.3	\$4 ×
_	10	307
	16	
	25	333
	35	345

	Parts No.
50V	360
6.3	
10	308
16	321
25	334
35	346
50	361
6.3	
10	309
16	322
25	335
35	347
50	362
6.3	298
10	310
16	323
25	336
35	348
50	
63	377
	6.3 10 16 25 35 50 6.3 10 16 25 35 10 16 25 35 50 6.3 10 16 25 35 50

CONNECTOR

top-type receptacle





· G	
20	1 560 014 0

3P	1-560-008-00	
5P	1-560-009-00	
6P	1-560-010-00	
8P	1-560-011-00	
10P	1-560-012-00	
12P	1-560-013-00	



3P	1-560-014-00
5P	1-560-015-00
6P	1-560-016-00
8P	1-560-017-00
10P	1-560-018-00
12P	1-560-019-00



plug



3P	1-561-155-00
5P	1-561-156-00
6P	1-561-157-00
8P	1-561-158-00
10P	1-561-159-00
12P	1-561-160-00



contact

1-560-006-00 (AWG 20 ~ 26)

1-560-007-00 (AWG 26 ~ 30)

- 1.
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MICRO INDUCTOR

1 μH through 470 μH

±5%



5mm dia

Parts No.	1-407-	DDD-XX
-----------	--------	--------

Value	Parts No.	Value	Parts No. -□□□-
1 μH	178	4.7 μH	186
1.2	179 💀	5.6	187
1.5	180	6.8	188
1.8	181	8.2	189
2.2	182	10	157
2.7	183	12	158
3.3	184	15·	159
3.9	185	18	160

40/	
Value	Parts No.
22 μH	161
27	162
33	163
39	164
47	165
56	166
68	167
82	168

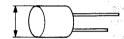
	`
Value	Parts No. —□□□-
100 μΗ	169
120	170
150	171
180	172
220	173
270	174
330	175
390	176
470	177

MICRO INDUCTOR

470 μ H through 33 mH

Parts No.

±5%



10mm dia

– Parts No. 1-407-□□□-00

Value	Parts No.	Value
470 µH	488	1.5 mH
560	489	1.8
680	490	2.2
820	491	2.7
1 mH	492	3.3
1.2	493	3.9

407-000-00	
Value	Parts No. —□□□-
4.7 mH	500
5.6	501
6.8	502
8.2	503
10	504
12	505

	`
Value	Parts No.
15 mH	506
18	507
22	508
27	509
33	510

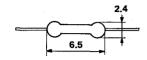
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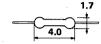
1.1 402 36 438 1.1 474 36 510 1.2 403 39 439 1.2 475 39 511 1.3 404 43 440 1.3 476 43 512 1.5 406 47 441 1.5 477 47 513 1.6 406 51 442 1.6 478 51 51 51 1.8 407 56 443 1.8 479 56 51 56 51 2 408 62 444 2 480 62 516 56 516 2.2 409 68 445 2.2 481 68 517 2.7 411 82 447 2.7 483 82 519 3.3 412 91 448 3.0 484 91 520 3.3 413 100 Ω 449 3.3 485 100 kΩ 521 3.9 415 120 451 3.9 487 120 523 4.3 416 130 452 4.3 488 130 524 4.7 </th <th>Value</th> <th>Parts No.</th> <th>Value</th> <th>Parts No.</th> <th>Value</th> <th>Parts No.</th> <th>Value</th> <th>Parts No. —□□□ -</th>	Value	Parts No.	Value	Parts No.	Value	Parts No.	Value	Parts No. —□□□ -
1.2 403 39 439 1.2 475 39 511 1.3 404 43 440 1.3 476 43 512 1.5 405 47 441 1.5 477 47 513 1.6 406 51 442 1.6 478 51 514 1.8 407 56 443 1.8 479 56 515 2 408 62 444 2 480 62 516 2.2 409 68 445 2.2 481 68 517 2.4 410 75 446 2.2 481 68 517 2.7 411 82 447 2.7 483 82 519 3.3 412 91 448 3.0 484 91 520 3.6 414 110 450 3.6 486 110 522 3.9 415 120 451 3.9 487 120 523 4.7 417 150 453 4.7 488 130 524 4.7 417 150 453 4.7 489<	1 Ω	401	33 Ω	437	1 kΩ	473	33 kΩ	509
1.3	1.1	402	36	438	1.1	474	36	510
1.5	1.2	403	39	439	1.2	475	39	511
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1.3	404	43	440	1.3	476	43	512
1.8 407 56 443 1.8 479 56 515 2 408 62 444 2 480 62 516 2.2 409 68 445 2.2 481 68 517 2.4 410 75 446 2.4 482 75 518 2.7 411 82 447 2.7 483 82 519 3 412 91 448 3.0 484 91 520 3.3 413 100 Ω 449 3.3 485 100 kΩ 521 3.6 414 110 450 3.9 487 120 523 4.3 416 130 452 4.3 488 130 524 4.7 417 150 453 4.7 489 150 525 5.1 418 160 454 5.1 490 180 527 5.1 418 180 455 5.6 491 180 527 6.2 420 200 456 6.2 492 200 528 6.8 421 220 457 6.8	1.5	405	47	441	1.5	477	47	513
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1.6	406	51	442	1.6	478	51	514
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1.8	407	56	443	1.8	479	56	515
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2	408	62	444	2	480	62	516
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2.2	409	68	445	2.2	481	68	517
3 412 91 448 3.0 484 91 520 3.3 413 $100 Ω$ 449 3.3 485 $100 kΩ$ 521 3.6 414 110 450 3.6 486 110 522 3.9 415 120 451 3.9 487 120 523 4.3 416 130 452 4.3 488 130 524 4.7 417 150 453 4.7 489 150 525 5.1 418 160 454 5.1 490 160 526 5.6 419 180 455 5.6 491 180 527 6.2 420 200 456 6.2 492 200 528 6.8 421 220 457 6.8 493 220 529 7.5 422 240 458 7.5 494 240	2.4	410	75	446	2.4	482	75	518
3.3 413 100Ω 449 3.3 485 $100 k\Omega$ 521 3.6 414 110 450 3.6 486 110 522 3.9 415 120 451 3.9 487 120 523 4.3 416 130 452 4.3 488 130 524 4.7 417 150 453 4.7 489 150 525 5.1 418 160 454 5.1 490 160 526 5.6 419 180 455 5.6 491 180 527 6.2 420 200 456 6.2 492 200 528 6.8 421 220 457 6.8 493 220 528 7.5 422 240 458 7.5 492 200 529 8.2 423 270 459 8.2 495 270 531 9.1 424 300 460 9.1 496 300	2.7	411	82	447	2.7	483	82	519
3.6 414 110 450 3.6 486 110 522 3.9 415 120 451 3.9 487 120 523 4.3 416 130 452 4.3 488 130 524 4.7 417 150 453 4.7 489 150 525 5.1 418 160 454 5.1 490 160 526 5.6 419 180 455 5.6 491 180 527 6.2 420 200 456 6.2 492 200 528 6.8 421 220 457 6.8 493 220 529 7.5 422 240 458 7.5 494 240 530 8.2 423 270 459 8.2 495 270 531 9.1 424 300 460 9.1 496 300 532 10 Ω 425 330 461 10 kΩ 497 330 <	3	412	91	448	3.0	484	91	520
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.3	413	100 Ω	449	3.3	485	100 kΩ	521
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	3.6	414	110	450	3.6	486	110	522
4.7 417 150 453 4.7 489 150 525 5.1 418 160 454 5.1 490 160 526 5.6 419 180 455 5.6 491 180 527 6.2 420 200 456 6.2 492 200 528 6.8 421 220 457 6.8 493 220 529 7.5 422 240 458 7.5 494 240 530 8.2 423 270 459 8.2 495 270 531 9.1 424 300 460 9.1 496 300 532 10 Ω 425 330 461 10 kΩ 497 330 533 11 426 360 462 11 498 360 534 12 427 390 463 12 499 390 535 13 428 430 464 13 500 430 536	3.9	415	120	451	3.9	487	120	523
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	4.3	416	130	452	4.3	488	130	524
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4.7	417	150	453	4.7	489	150	525
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5.1	418	160	454	5.1	490	160	526
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5.6	419	180	455	5.6	491	180	527
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	6.2	420	200	456	6.2	492	200	528
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	6.8	421	220	457	6.8	493	220	529
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	7.5	422	240	458	7.5	494	240	530
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	8.2	423	270	459	8.2	495	270	531
11 426 360 462 11 498 360 534 12 427 390 463 12 499 390 535 13 428 430 464 13 500 430 536 15 429 470 465 15 501 470 537 16 430 510 466 16 502 510 538 18 431 560 467 18 503 560 539 20 432 620 468 20 504 620 540 22 433 680 469 22 505 680 541 24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	9.1	424	300	460	9.1	496	300	532
12 427 390 463 12 499 390 535 13 428 430 464 13 500 430 536 15 429 470 465 15 501 470 537 16 430 510 466 16 502 510 538 18 431 560 467 18 503 560 539 20 432 620 468 20 504 620 540 22 433 680 469 22 505 680 541 24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	10 Ω	425	330	461	10 kΩ	497	330	533
13 428 430 464 13 500 430 536 15 429 470 465 15 501 470 537 16 430 510 466 16 502 510 538 18 431 560 467 18 503 560 539 20 432 620 468 20 504 620 540 22 433 680 469 22 505 680 541 24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	11	426	360	462	11	498	360	534
15 429 470 465 15 501 470 537 16 430 510 466 16 502 510 538 18 431 560 467 18 503 560 539 20 432 620 468 20 504 620 540 22 433 680 469 22 505 680 541 24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	12	427	390	463	12	499	390	535
16 430 510 466 16 502 510 538 18 431 560 467 18 503 560 539 20 432 620 468 20 504 620 540 22 433 680 469 22 505 680 541 24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	13	428	430	464	13	500	430	536
18 431 560 467 18 503 560 539 20 432 620 468 20 504 620 540 22 433 680 469 22 505 680 541 24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	15	429	470	465	15	501	470	537
20 432 620 468 20 504 620 540 22 433 680 469 22 505 680 541 24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	16	430	510	466	16	502	510	538
22 433 680 469 22 505 680 541 24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	18	431	560	467	18	503	560	539
24 434 750 470 24 506 750 542 27 435 820 471 27 507 820 543	20	432	. 620	468	20	504	620	540
27 435 820 471 27 507 820 543	22	433	680	469	22	505	680	541
	24	434	750	470	24	506	750	542
30 436 910 472 30 509 910 544	27	435	820	471	27	507	820	543
30 30 310 472 30 300 1 310 344	30	436	910	472	30	508	910	544

- - Replace only with same components as specified.
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CARBON RESISTOR (1/8W)

 \pm 5%, 1/8W, non-special type 2.2 Ω through 1M Ω





Parts	No.	1-247-	.000	-00

/			- Parts No.	1-2	246-000	00			
Value	Parts No.	Value	Parts No.		Value	Parts No.		Value	Parts No.
1Ω	:	33 Ω	765	1	1kΩ	783		33k Ω	801
1.1		36	826		1.1	844		36	862
1.2	_	39	766		1.2	784		39	802
1.3	_	43	827]	1.3	845		43	863
1.5	_	47	767		1.5	785		47	803
1.6	_	51	828	1	1.6	846		51	864
1.8	. –	56	768	1	1.8	786		56	804
2	_	62	829	1	2	847	lf	62	865
2.2	751	68	769		2.2	787		68	805
2.4	812	75	830		2.4	848		75	866
2.7	752	82	770	1	2.7	788		82	806
3	813	91	831	1	3.0	849		91	867
3.3	753	100Ω	771	1	3.3	789		100k Ω	807
3.6	814	110	832	٦,	3.6	850		110	868
3.9	754	120	772	1	3.9	790		120	808
4.3	815	130	833	٦.,	4.3	851		130	869
4.7	755	150	773		4.7	791		150	809
5.1	816	160	834		5.1	852		160	870
5.6	756	180	774		5.6	792		180	810
6.2	817	200	835	1	6.2	853		200	871
6.8	757	220	775		6.8	793		220	811
7.5	818	240	836	1	7.5	854	-		
8.2	758	270	776	1	8.2	794			
9.1	819	300	837	1	9.1	855			
10Ω	759	330	777	1	10kΩ	795			
11	820	360	838	1	11	856			
12	760	390	778	1	12	796			
13	821	430	839	1	13	857			
	 	 	+	- 1			1		

Value	Parts No.
240k Ω	054
270	046
300	055
330	047
360	056
390	048
430	057
470	049
510	058
560	050
620	059
680	051
750	060
820	052
910	061
1ΜΩ	053

NOTE:

The shaded and <u>↑</u>-marked components are critical to safety.

- Replace only with same components as specified.
- 2. Parts printed in Bold-Face type are normally stocked for replacement purposes. The remaining parts shown in this manual are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

ABBREVIATIONS

Ref. No.	Description	Ref. No.	Description	Ref. No.	Description
C00, CV00	CAPACITOR	ICOD	IC	R00, RV00	RESISTOR
CN□□	CONNECTOR	L00, LV00	INDUCTOR	RYDD	RELAY
CP□□	COMBINATION PARTS	MOD	MOTOR	soo	SWITCH
D 00	DIODE	MEDD	METER	SB□□	SOLAR BATTERY
DL80	DELAY LINE	PL 🗆 🗇	LAMP	TOO	TRANSFORMER
FOO	FUSE	PM 🗆 🗆	SOLENOID	THOO	THERMISTOR
FL00	FILTER	Q = =	TRANSISTOR	X 🗆 🗆 .	CRYSTAL
HOD	HEAD				

All capacitors are in micro farads unless otherwise specified.

All inductors are in micro henries unless otherwise specified.

All resistors are in ohms.

Ref. No. Parts No.	o. Description		Ref. No.	Parts No.	Description	
AO-2 BOARD	75-00 PRINTED CIRCU	JIT BOARD, AO-2	D1 D2 D3	8-719-200-02 8-719-200-02 8-719-200-02	10E-2 10E-2 10E-2	
S1 1-516-9	63-00 LEVER SLIDE		FL1 FL2	1-235-030-00 1-235-030-00	LOWPASS LOWPASS	
	"AUDIO MONIT	OR"				
			IC1 IC2 IC3	8-751-701-11 8-751-701-11 8-751-701-11	CX-170 (SONY) CX-170 (SONY) CX-170 (SONY)	
			IC4 IC5	8-720-002-97 8-720-002-97	TX429D-7 (SONY) TX429D-7 (SONY)	
AO-3 BOARD			Q1 Q2 Q3 Q4	8-760-335-10 8-760-335-10 8-760-335-10 8-729-612-77	2SC1474 2SC1474 2SC1474 2SA1027R	
A-6713	-106-A MOUNTED CIRC	CUIT BOARD, AO-3	Q5	8-729-201-04 8-729-612-77	2SC2878 2SA1027R	
C6 1-108-5	55-00 MYLAR 0.001 !	5% 50 V	Q7 Q8 Q9	8-729-612-77 8-729-612-77 8-729-201-04	2SC2878 2SA1027R 2SC2878	
C16 1-108-5 C26 1-108-5 C31 1-108-6	55-00 MYLAR 0.001 5 55-00 MYLAR 0.001 5	5% 50V 5% 50V		G . 20 20 1 0 1		
C32 1-108-6	01-00 MYLAR 0.082 !	5% 50V	R1	1-244-861-00	CARBON 330 5% 1	/2W

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
			OFA	1 424 256 00	TANITALLING 2.2 400/ 2EV
RV1	1-224-251-XX	VAR, METAL 4.7K	C52	1-131-356-00	TANTALUM 3.3 10% 25V
RV2	1-224-251-XX	VAR, METAL 4.7K	C84	1-102-112-00	CERAMIC 330P 10% 50V
RV3	1-224-251-XX	VAR, METAL 4.7K	C85	1-131-356-00	TANTALUM 3.3 10% 25V
			C87	1-131-356-00	TANTALUM 3.3 10% 25V
			C101	1-108-555-00	MYLAR 0.001 5% 50V
T4	1 122 225 00	INPUT/OUTPUT	C102	1-131-356-00	TANTALUM 3.3 10% 25V
T1	1-423-225-00		C105	1-131-356-00	TANTALUM 3.3 10% 25V
T2	1-423-225-00	INPUT/OUTPUT		1-131-371-00	TANTALUM 10 10% 16V
Т3	1-423-225-00	INPUT/OUTPUT	C106		
		is .	C107	1-131-371-00	TANTALUM 10 10% 16V
			C108	1-130-491-00	MYLAR 0.047 5% 50V
AU-13 BO	ARD		C109	1-131-364-00	TANTALUM 6.8 10% 20V
			C110	1-131-371-00	TANTALUM 10 10% 16V
	A-6713-108-B	MOUNTED CIRCUIT BOARD,	C112	1-131-356-00	TANTALUM 3.3 10% 25V
		AU-13 (WITH AU-25)	*C113	1-108-577-00	MYLAR 0.0082 5% 50V
		204 6	C115	1-108-571-00	MYLAR 0.0047 5% 50V
		* **	0115	1-100-071-00	
			C117	1-131-356-00	TANTALUM 3.3 10% 25V
C1	1-108-555-00	MYLAR 0.01 5% 50V	C118	1-108-597-00	MYLAR 0.56 5% 50V
C2	1-131-356-00	TANTALUM 3.3 10% 25V	C119	1-108-583-00	MYLAR 0.015 5% 50V
C5	1-131-356-00	TANTALUM 3.3 10% 25V	C120	1-130-491-00	MYLAR 0.047 5% 50V
C6	1-131-371-00	TANTALUM 10 10% 16V	C121	1-130-491-00	MYLAR 0.047 5% 50V
C7	1-131-371-00	TANTALUM 10 10% 16V	0.2.	. 100 101 00	्रास्ट्रिकेटिश स्टब्स्स्य ।
			C122	1-131-371-00	TANTALUM 10 10% 16V
C8	1-130-491-00	MYLAR 0.047 5% 50V	C123	1-108-555-00	MYLAR 0.001 5% 50V
C9	1-131-364-00	TANTALUM 6.8 10% 20V	C124	1-131-356-00	TANTALUM 3.3 10% 25V
C10	1-131-371-00	TANTALUM 10 10% 16V	C129	1-131-356-00	TANTALUM 3.3 10% 25V
C12	1-131-356-00	TANTALUM 3.3 10% 25V	C130	1-108-583-00	MYLAR 0.015 5% 50V
*C13	1-108-577-00	MYLAR 0.0082 5% 50V	0.00		4201 1010 4010
.010	1.100,017,00	- 14 1 등 1 등 1 등 1 등 1 등 1 등 1 등 1 등 1 등	C131	1-131-342-00	TANTALUM 0.15 10% 35V
C15	1-108-571-00	MYLAR 0.0047 5% 50V	C132	1-131-499-00	TANTALUM 1.5 10% 20V
C17	1-131-356-00	TANTALUM 3.3 10% 25V	C133	1-131-356-00	TANTALUM 3.3 10% 25V
C17	1-108-597-00	MYLAR 0.056 5% 50V	C135	1-108-585-00	MYLAR 0.018 5% 50V
		MYLAR 0.015 5% 50V	C138	1-108-555-00	MYLAR 0.001 5% 50V
C19	1-108-583-00	그는 이 없는 뭐 하늘이 하는 사람들이 되었다. 그 사람들은 그는 말하는 사람들이 되었다.	0100	1-100-000-00	- W. EAN 0.001 0.0 500
C20	1-130-491-00	MYLAR 0.047 5% 50V	C140	1-109-162-00	MICA 470PF 5% 300V
			C141	1-108-587-00	MYLAR 0.022 5% 50V
C21	1-130-491-00	MYLAR 0.047 5% 50V		1-108-565-00	MYLAR 0.0027 5% 50V
C22	1-131-371-00	TANTALUM 10 10% 16V	C145		TANTALUM 3.3 10% 25V
C23	1-108-555-00	MYLAR 0.001 5% 50V	C150	1-131-356-00	
C24	1-131-356-00	TANTALUM 3.3 10% 25V	C152	1-131-356-00	TANTALUM 3.3 10% 25V
C29	1-131-356-00	TANTALUM 3.3 10% 25V		4 404 400 00	TANITALLINA 4 E 400/ 201/
			C201	1-131-499-00	TANTALUM 1.5 10% 20V
C30	1-108-583-00	MYLAR 0.015 5% 50V	C202	1-131-356-00	TANTALUM 3.3 10% 25V
C31	1-131-342-00	TANTALUM 0.15 10% 35V	C203	1-131-354-00	TANTALUM 1.5 10% 25V
C32	1-131-499-00	TANTALUM 1.5 10% 20V	C204	1-131-356-00	TANTALUM 3.3 10% 25V
C33	1-131-356-00	TANTALUM 3.3 10% 25V	C205	1-131-354-00	TANTALUM 1.5 10% 25V
C35	1-108-585-00	MYLAR 0.018 5% 50V			
			C206	1-131-499-00	TANTALUM 1.5 10% 20V
C38	1-108-555-00	MYLAR 0.001 5% 50V	C207	1-131-499-00	TNATALUM 1.5 10% 20V
C40	1-109-162-00	MICA 470PF 5% 300V	C208	1-131-499-00	TANTALUM 1.5 10% 20V
C41	1-108-587-00	MYLAR 0.0022 5% 50V	C209	1-131-499-00	TANTALUM 1.5 10% 20V
C45	1-108-565-00	MYLAR 0.0027 5% 50V	C503	1-129-714-00	FILM 0.01 10% 630V
C50	1-131-356-00	TANTALUM 3.3 10% 25V			
230	5. 550-50		C506	1-108-591-00	MYLAR 0.033 5% 50V
			C508	1-108-579-00	MYLAR 0.01 5% 50V
	0110005		C509	1-108-579-00	MYLAR 0.01 5% 50V
,	*: CHOOSE		C512	1-131-369-00	TANTALUM 4.7 20% 16V
			C514	1-129-712-00	FILM 0.0068 10% 630V
		•			

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
C515	1-131-364-00	TANTALUM 4.7 20% 20V	D505	8-719-815-55	1S1555
C517	1-129-712-00	FILM 0.0068 10% 630V	D601	8-719-815-55	1S1555
C518	1-131-358-00	TANTALUM 6.8 10% 25V	D602	8-719-815-55	1S1555
C520	1-129-708-00	FILM 0.0033 10% 630V	D603	8-719-815-55	1\$1555
C521	1-109-169-00	MICA 910PF 5% 300V	D604	8-719-815-55	1S1555
5521	1-105-105-00	WIICA 31011 370 000 V	D004	071301303	107000
C522	1-109-169-00	MICA 910PF 5% 300V	D605	8-719-815-55	1S1555
C522	1-131-498-00	TANTALUM 1 10% 25V	D605	8-719-815-55 8-719-815-55	1S1555
C523	1-131-498-00	TANTALUM 1 10% 25V			1S1555 1S1555
C600	1-102-114-00	CERAMIC 470PF 10% 50V	D607	8-719-815-55	
	1-131-499-00	TANTALUM 1.5 10% 20V	D608	8-719-815-55	151555
C601	1-131-499-00	TANTALUM 1.5 10% 20V	D609	8-719-815-55	1S1555
C602	1-131-455-00	TANTALOW 1.5 10% 20V	DC40	0.740.045.55	404555
	10 10 10 10 N	THE WARRANCE SHE WITTER STORY	D610	8-719-815-55	181555
C603	1-102-114-00	CERAMIC 470P 10% 50V	D611	8-719-815-55	1S1555
C604	1-102-114-00	CERAMIC 470P 10% 50V	D612	8-719-815-55	1S1555
C606	1-131-499-00	TANTALUM 1.5 10% 20V	FL1	1-235-030-00	LOWPASS
C607	1-131-499-00	TANTALUM 1.5 10% 20V	FL101	1-235-030-00	LOWPASS
C608	1-131-499-00	TANTALUM 1.5 10% 20V	FLIUI	1-235-030-00	EOW ASS
C609	1-131-499-00	TANTALUM 1.5 10% 20V		Fry v o v	Annual
C610	1-107-179-00	MICA 270PF 5% 500V	IC1	8-759-276-17	TA7617AP (TOSHIBA)
	HW 748	1.6 《藏诗罗琴》。 - 唐中 · [4] 魏 · · · · · · · · · · · · · · · · · ·	IC2	8-720-002-97	TX-429D-7 (SONY)
		A CAPE	IC3	8-720-002-97	TX-429D-7 (SONY)
D1	8-719-815-55		IC4	8-720-002-97	TX-429D-7 (SONY)
D2	8-719-815-55	181555	IC5	8-759-145-58	μPC4558C (RC4558; RAYTHEON)
D3		181555			
D4	8-719-815-55		IC101	8-759-276-17	TA7617AP (TOSHIBA)
D6	8-719-815-55	4 1S1555	IC 102	8-720-002-97	TX-429D-7 (SONY)
	Market Species		IC 103	8-720-002-97	TX-429D-7 (SONY)
D9	8-719-162-07	RD6.2E-B	IC 104	8-720-002-97	TX-429D-7 (SONY)
D10	8-719-101-97	1SS97-1	IC201	8-759-240-71	TC4071BP (CD4071BE; RCA)
D101	8-719-815-55	1S1555	10201	07002-071	1010/10/10/10/10/10/1
D102	8-719-815-55	1S1555	IC202	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D103	8-719-815-55	1S1555	IC202	8-759-240-81	TC4081BP (CD4081BE; RCA)
	100 - 100 - 10	NAME OF THE PARTY	IC203	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D104	8-719-815-55	1S1555	IC204	8-759-240-81	TC4081BP (CD4081BE; RCA)
D106	8-719-815-55	1S1555		8-759-240-81	TC4081BP (CD4081BE; RCA)
D109	8-719-162-07	RD6.2E-B	IC206	0-759-240-01	1C400 IBF (CD400 IBE, NCA)
D110	8-719-101-97	1SS97-1	10007	0.750.040.01	TC4081BP (CD4081BE: RCA)
D203	8-719-815-55	1S1555	IC207	8-759-240-81 8-759-240-69	TC4069UBP (CD4069UBE; RCA)
			IC208		
D204	8-719-815-55	1S1555	IC209	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D205	8-719-815-55	1S1555	IC601	8-759-345-38	HD14538BP (MC14538BCP; MOT)
D206	8-719-815-55	1S1555	IC602	8-759-240-30	TC4030BP (CD4030BE; RCA)
D207	8-719-815-55	1S1555			
D208	8-719-162-07	RD6.2E-B	IC603	8-759-240-71	TC4071BP (CD4071BE; RCA)
			IC604	8-759-240-81	TC4081BP (CD4081BE; RCA)
D209	8-719-815-55	1S1555	IC605	8-759-345-38	HD14538BP (MC14538BCP; MOT)
D210	8-719-815-55	1S1555	IC606	8-759-240-13	TC4013BP (CD4013BE; RCA)
D211	8-719-815-55	181555			
D212	8-719-815-55	181555	L1	1-407-519-00	FERRITE CORE, 7T
D213	8-719-815-55	181555	L101	1-407-519-00	FERRITE CORE, 7T
D213	6-7 13-6 10-00	131000			
D214	0.710.015.55	191555			
D214	8-719-815-55	181555			
D501	8-719-200-02	10E-2	LV1	1-409-295-00	VAR, 22mH
D502	8-719-200-02	10E-2	LV2	1-409-295-00	VAR, 22mH
D503	8-719-815-55	1S1555	LV3	1-407-288-00	VAR, 4.7mH
D504	8-719-815-55	1S1555	LV101	1-409-295-00	VAR, 22mH
			LV102	1-409-295-00	VAR, 22mH
			27102		

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Ref. No.	Parts No.	Description		Ref. No.	Parts No.	Description
	4 407 000 00	VAR, 4.7mH		Q506	8-729-612-77	2SA1027R
LV103	1-407-288-00	VAR, 2.2mH	•	Q507	8-729-177-43	2SD774
LV501	1-407-286-00			Q508	8-729-177-43	2SD774
LV502	1-407-284-00	VAR, 1mH		Q509	8-729-177-43	2SD774
LV503	1-407-284-00	VAR, 1mH			CONTROL 2 1 N	2SD774-5
LV504	1-407-283-00	VAR, 0.68mH		Q510	8-729-117-44	230774-3
LV505	1-407-283-00	VAR, 0.68mH		Q511	8-729-177-43	2SD774
	1-407-282-00	VAR, 0.47mH		Q512	8-729-177-43	2SD774
LV506	1-407-202-00	VAII, 0.471111		Q513	8-729-117-44	2SD774-5
				Q514	8-729-177-43	2SD774
				Q515	8-729-177-43	2SD774
	8-729-201-04	2SC2878		4515	0-725-177-43	20277
01	•			Q516	8-729-117-44	2SD774-5
Q2	8-729-612-77	2SA1027R		Q517	8-729-177-43	2SD774
O3	8-729-201-04	2SC2878			8-729-177-43	2SD774
Q4	8-729-201-04	2SC2878		Q518		98 N. 18
Q5	8-729-663-4 7	2SC1364		Q601	8-729-384-48	2SA844
				Q701	8-729-663-47	2SC1364
Q6	8-729-201-04	2SC2878		0702	8-729-663-47	2SC1364
Q7	8-729-201-04	2SC2878		Q702	and the second second second	2SC1364 2SC1364
Q8	8-729-663-47	2SC1364		Q801	8-729-663-47	TRAGRICA
Q9	8-729-201-04	2SC2878		Q802	8-729-663-47	2SC1364
Q10	8-729-663-47	2SC1364				* 2017年 - 1917年 - 1918年 - 1917年 - 19
011	0 700 177 49	2SD774				with the first terms of the
Q11	8-729-177-43			R94	1-244-861-00	CARBON 330 5% 1/2W
Q12	8-729-374-02	2SB740	•		1-244-861-00	CARBON 330 5% 1/2W
Q13	8-729-663-47	2SC1364		R95		CARBON 4.7 5% 1/2W
Q101	8-729-201-04	2SC2878		R511	1-244-817-00	1 3 5 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Q102	8-729-612-77	2SA1027R		R523	1-244-825-00	CARBON 10 5% 1/2W
	•			R525	1-244-833-00	CARBON 22 5% 1/2W
Q103	8-729-201-04	2SC2878				
Q104	8-729-201-04	2SC2878	*	R531	1-244-825-00	CARBON 10 5% 1/2W
Q105	8-729-663-47	2SC1364		R532	1-244-833-00	CARBON 22 5% 1/2W
Q106	8-729-201-04	2SC2878		R539	1-244-825-00	CARBON 10 5% 1/2W
Q107	8-729-201-04	2SC2878		R540	1-244-825-00	CARBON 10 5% 1/2W
	2					
Q108	8-729-663-47	2SC1364				
Q109	8-729-201-04	2SC2878				
Q110	8-729-663-47	2SC1364	•	RV1	1-224-254-XX	VAR, METAL 47K
Q113	8-729-663-47	2SC1364		RV2	1-224-253-XX	VAR, METAL 22K
Q201	8-729-612-77	2SA1027R		RV3	1-224-254-XX	VAR, METAL 47K
				RV4	1-224-251-XX	VAR, METAL 4700
Q202 ·	8-729-612-77	2SA1027R		RV5	1-224-250-XX	VAR, METAL 2.2K
Q203	8-729-612-77	2SA1027R				
Q204	8-729-612-77	2SA1027R		RV6	1-224-134-XX	VAR, METAL 470K
Q205	8-729-612-77	2SA1027R		RV7	1-224-248-XX	VAR, METAL 470
Q206	8-729-612-77	2SA1027R			/S/N up to 123	35 (PAL) \
Q200	0-725-012-77	20/1/02/11			S/N up to 101	
Q207	8-729-663-47	2SC1364		RV101	1-224-254-XX	
				RV102	1-224-253-XX	
Q501.	8-729-663-47	2SC1364		RV102	1-224-253-XX	
Q502	8-729-663-47	2SC1364		n v 103	1-224-204-77	COSTS OF THE TAIL
Q503	8-729-201-04	2SC2878			4 004 0E4 VV	VAR, METAL 4700
Q504	8-729-612-77	2\$A1027R		RV104	1-224-251-XX	
Q505	8-729-177-43	2SD774		RV105	1-224-250-XX	
				RV106	1-224-134-XX	
				RV107	1-224-248-XX	
					(S/N up to 123	
					S/N up to 101	85 (SECAM)
				RV202		VAR, METAL 100K

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AU-13 (AU-25), BRUSH, CC-9, CC-10, CC-11

	Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description	
	RV203	1-224-255-XX	VAR, METAL 100K	CC-10 BO	ARD		
	RV204	1-224-255-XX	VAR, METAL 100K				
	RV205	1-224-255-XX	VAR, METAL 100K		1-604-430-00	PRINTED CIRCUI	T BOARD,
	RV206	1-224-255-XX	VAR, METAL 100K				CC-10
	RV207	1-224-255-XX	VAR, METAL 100K				
	D)/200	1:224.2EE VV	VAN TERME				•
	RV208	1-224-255-XX	VAR, METAL 100K	IC1	8-719-140-05	PS4005 (NEC)	
	RV209	1-224-255-XX	VAR, METAL 100K				
	RV501	1-224-247-XX	VAR, METAL 100				
	RV502	1-224-247-XX	VAR, METAL 100				
			45 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1				
	RY501	1-515-475-00	12V, 280 OHM	•			
	RY502	1-515-475-00	12V, 280 OHM	•			
	٠		The state of the s				
	****		94.7 g (CC-11 BO	ARD	2.37	
	T1	1-427-562-11	INPUT/OUTPUT				
	T2	1-427-284-00	OUTPUT		1-604-431-00	PRINTED CIRCUI	T BOARD,
	T101	1-427-562-11	INPUT/OUTPUT				CC-11
	T102	1-427-284-00	OUTPUT				
ı	T501	1-433-195-00	OSC.				
	T502	1-433-196-00	BIAS			80200	
	T503	1-433-196-00	BIAS	IC2	8-719-140-05	PS4005 (NEC)	
	T504	1-433-196-00	BIAS				
l							•
						e ja	
			no swary system	•		200	
	TH1	1-800-200-00	S-3K				
	TH101	1-800-200-00	S-3K				

BRUSH BOARD

1-582-150-00 PRINTED CIRCUIT BOARD,

CC-9 BOARD

1-604-429-00 PRINTED CIRCUIT BOARD,

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
00.44.004			C223	1-131-377-00	TANTALUM 10 10% 10V
CD-14 BOA	עא	*	C226	1-108-555-00	MYLAR 0.001 5% 50V
		MOUNTED CIRCUIT BOARD,	C360	1-131-498-00	TANTALUM 1 10% 25V
	A-6711-304-A	CD-14	C363	1-131-498-00	TANTALUM 1 10% 25V
		CD-14	C364	1-131-498-00	TANTALUM 1 10% 25V
			C364	1-131-450-00	TANTALON 1 10% 25V
			C401	1-107-026-00	MICA 5.1PF 500V
				1-108-555-00	MYLAR 0.001 5% 50V
C1	1-131-498-00	TANTALUM 1 10% 25V	C509	1-108-555-00	MYLAR 0.001 5% 50V
C5	1-131-498-00	TANTALUM 1 10% 25V	C510	1-107-158-00	MICA 30PF 5% 500V
C13	1-107-049-00	MICA 8.2PF 500V	C512	2. 化性能性量数据 (1) (2) (4)	MYLAR 0.1 5% 50V
C14	1-107-042-00	MICA 2,2PF 500V	C514	1-108-251-00	WITLAN 0.1 5% 50V
C16	1-102-759-00	CERAMIC 62PF UJ 5% 50V	**		
	4 407 007 00	AND ACRE EN EDOM	CV1	1-141-130-00	TRIMMER 2.5PF ~ 18PF
C18	1-107-207-00	MICA 16PF 5% 500V		1-141-130-00	TRIMMER 2.5PF ~ 18PF
C20	1-108-575-00	MYLAR 0.0068 5% 50V	CV2	1-141-130-00	INTIMINER 2.0FT - TOFT
C21	1-131-361-00	TANTALUM 2.2 10% 20V		,	
C22	1-131-343-00	TANTALUM 0.22 10% 35V		0.740.045.50	101EEE C
C23	1-108-569-00	MYLAR 0.0039 5% 50V	D1	8-719-815-59	1S1555-S
		BANKAN BANKAR BANKA	D6	8-719-815-55	1S1555
C24	1-108-579-00	MYLAR 0.01 5% 50V	D7	8-719-815-55	1S1555
C27	1-131-379-00	TANTALUM 22 10% 10V	D8	8-719-815-55	1S1555
C28	1-131-362-00	TANTALUM 3.3 10% 20V	D101	8-719-815-55	181555
C29	1-131-379-00	TANTALUM 22 10% 10V			
C30	1-131-362-00	TANTALUM 3.3 10% 20V	D102	8-719-815-55	181555
,		ENDAMES TO POST OF	D103	8-719-815-55	1S1555
C38	1-108-555-00	MYLAR 0,001 5% 50V	D104	8-719-815-55	1S1555
C73	1-107-203-00	MICA 11PF 5% 500V	D105	8-719-815-55	1S1555
C117	1-131-498-00	TANTALUM 1 10% 25V	D106	8-719-815-55	181555
C117	370	and the second			
C118	1-108-577-00	MYLAR 0.0082 5% 50V	D107	8-719-815-59	1S1555-S
C120	1-109-555-00	DIPPED MICA 560PF 5% 100V	D108	8-719-815-59	1S1555-S
C120	1-109-160-00	DIPPED MICA 390PF 5% 300V	D109	8-719-815-55	181555
	1-109-160-00	MYLAR 0.001 5% 50V	D201	8-719-815-55	1\$1555
C127		MYLAR 0.0039 5% 50V	D202	8-719-815-55	1S1555
C129	1-108-569-00	WIT LAR 0,0039 3% 30V	5200		
C132	1-109-557-00	DIPPED MICA 680PF 5% 100V	D203	8-719-709-25	1S1925-P
C133	1-109-557-00	DIPPED MICA 680PF 5% 100V	D204	8-719-709-25	1S1925-P
C134	1-108-575-00	MYLAR 0.0068 5% 50V	D301	8-719-815-55	1\$1555
C139	1-131-344-00	TANTALUM 0.33 10% 35V	D302	8-719-815-55	1S1555
	1-108-579-00	MYLAR 0.01 5% 50V	D303	8-719-815-55	1S1555
C148	1-106-57 5-00	WILAN 0.01 3/8 300	D304	8-719-815-55	1S1555
	1		D00-1	• • • • • • • • • • • • • • • • • • • •	
				•	
C149	1-131-377-00	TANTALUM 10 10% 10V			
C150	1-108-561-00	MYLAR 0.0018 5% 50V	DL1	1-415-096-00	0.3μS
C152	1-108-555-00	MYLAR 0.001 5% 50V		(S/N, up to 1	3725)
C154	1-131-498-00	TANTALUM 1 10% 25V		1-415-096-31	
C157	1-108-555-00	MYLAR 0.001 5% 50V		(S/N. 13726	and higher)
C157	1-100 000 00		51.3	1-415-096-00	0,3µS
C158	1-131-345-00	TANTALUM 0.47 10% 35V	DL2	(S/N, up to	
	1-107-026-00	MICA 5.1PF 10% 500V		1-415-096-31	.0.201
C160	1-107-026-00	MYLAR 0.001 5% 50V		(S/N. 13726	and higher)
C207	•	MYLAR 0.01 5% 50V		15/14. 13/20	and nighter/
C208	1-108-579-00	MYLAR 0.022 5% 50V			
C219	1-108-587-00	TANTALUM 10 10% 10V		•	
C221	1-131-377-00	IAMIALOW IO 10% IOV	FL1	1-235-011-00	LOW PASS
			FL2	1-231-382-00	BAND PASS
			FL2	1-231-382-00	BAND PASS
			FLIUI	1-231-377-00	

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
IC1	8-751-300-00	CX-130 (SONY)	Q203	8-725-412-00	2SC1124
IC2	8-758-720-00	CX-872 (SONY)	Q204	8-724-375-01	2SC403C
IC3	8-751-300-00	CX-130 (SONY)	Q205	8-724-375-01	2SC403C
IC101	8-759-200-60	TA7060AP (TOSHIBA)	Q206	8-724-375-01	2SC403C
IC102	8-743-890-00	BX-389 (SONY)	Q301	8-724-375-01	2SC403C
IC103	8-759-345-38	HD14538BP (HITACHI)	Q302	8-724-375-01	2SC403C
IC104	8-759-245-28	TC4528BP (MC14528BCP; MOT)	Q303	8-724-375-01	2SC403C
IC105	8-759-908-59	CX-859 (SONY)	Q304	8-729-384-48	2SA844
	reference to	and the contract of the contra	Q305	8-729-384-48	2SA844
IC106	8-759-245-28	TC4528BP (MC14528BCP; MOT)	Q306		
IC201	8-759-200-60	TA7060AP (TOSHIBA)	4300	8-724-375-01	2SC403C
IC202	8-749-938-80	BX-388 (SONY)	Q307	8-729-663-47	2SC1364
IC203	8-751-300-00	CX-130 (SONY)	Q308	8-724-375-01	2SC403C
IC303	8-759-240-01	TC4001BP (CD4001BE; RCA)	Q309	8-724-375-01	2SC403C
IC501	8-751-300-00	CX-130 (SONY)	Q310	8-724-375-01	2SC403C
IC501	8-759-969-13	SN16913P (TI)	Q311	8-724-375-01	2SC403C
10302	6-753-909-13			િક્રિકે કિર્ફાઇ પ્ર	
L306	1-407-167-61	MICRO 68μΗ 5%	Q312	8-724-375-01	2SC403C
L300	1-407-107-01	MIGHO COMIT OVE	Q313	8-729-384-48	2SA844
			Q314	8-729-663-47	2SC1364
LV501	1-407-573-00	VAR 47	Q315	8-729-663-47	2SC1364
			Q316	8-729-384-48	2SA844
01	8-729-384-48	2SA 844	4010	0-725-004-40	NAME OF THE PARTY
Q1		2SC2878	Q501	8-724-375-01	2SC403C
Q2	8-729-201-04			12.12	
Q 3	8-724-375-01	2SC403C	Q502	8-724-375-01	2SC403C
Q4	8-724-375-01	2SC403C	Q503	8-729-663-47	2SC1364
Q5	8-729-384-48	2SA844	R21	1-212-718-00	METAL 470K 1/2W 1%
		i i i i i i i i i i i i i i i i i i i	R23	1-214-146-00	METAL 3.9K 1/4W 1%
Ω7	8-729-663-47	2SC1364	R24	1-214-154-00	METAL 8.2K 1/4W 1%
Q8	8-729-201-04	2SC2878	R220	1-244-835-00	CARBON 27 1/2W 5%
Ω9	8-729-201-04	2SC2878	R221	The State of the	
Q10	8-729-663-47	2SC 1364	N221	1-244-835-00	CARBON 27 1/2W 5%
Q11	8-729-663-47	2SC1364		1 () () () () () () () () () (rent de la companya d La companya de la co
			RV1	1-224-251-XX	VAR, METAL 4.7K
Q12	8-724-375-01	2SC403C	RV2	1-224-253-XX	VAR, METAL 22K
Q13	8-724-375-01	2SC403C	RV5	1-224-253-XX	그는 학생님 그는 그를 모임되는 환경 그는 그는 그를 다고 있다. 그는 사람들은
Q14	8-729-663-47	2SC1364	RV7	1-224-252-XX	VAR, METAL 10K
Q15	8-724-375-01	2SC403C	RV101	1-224-250-XX	VAR, METAL 2.2K
Q16	8-724-375-01	2SC403C	114 101	1-224-230-77	VAR, WETAL 2.2K
			RV102	1-224-252-XX	VAR, METAL 10K
Q24	8-729-663-47	2SC1364	RV102	1-224-252-XX	VAR, METAL 10K
Q25	8-729-201-04	2SC2878			•
Q101	8-729-663-47	2SC1364	RV104	1-224-251-XX	VAR, METAL 4.7K
Q102	8-724-375-01	2SC403C	RV105	1-224-253-XX	VAR, METAL 22K
Q103	8-729-384-48	2SA844	RV106	1-224-251-XX	VAR, METAL 4.7K
0404	0.700.004.40	00 4 0 4 4	RV107	1-224-249-XX	VAR, METAL 1K
Q104	8-729-384-48	2SA844	RV108	1-224-252-XX	VAR, METAL 10K
Q105	8-729-663-47	2SC1364	RV.109	1-224-252-XX	·
Q107	8-729-663-47	2SC1364	RV110	1-224-253-XX	•
Q109	8-724-375-01	2SC403C	RV201	1-224-660-21	VAR, METAL 1K
Q110	8-729-663-47	2SC1364	11 7 20 1	1-22-4-000-21	VAII, III. III.
Q111	8-729-113-32	2SB733			
Q112			RV202	1-224-252-XX	VAR, METAL 10K
	8-729-663-47	2SC1364	RV203	1-224-249-XX	VAR, METAL 1K
Q113	8-729-663-47	2SC1364	RV301	1-226-773-00	VAR, METAL 22K
Q201	8-724-375-01	2SC403C	RV302	1-226-775-00	VAR, METAL 100K
Q202	8-725-412-00	2SC1124	RV399	1-224-550-21	VAR, METAL 220
NOTE:					
NO I E.					

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CD-14, EK-2, EK-3, EM-1, FU-16, HP-5

Parts No. Description Ref. No. Ref. No. Parts No. Description 1-425-880-21 **BURST AMP FU-16 BOARD** T1 PRINTED CIRCUIT BOARD, **1** 1-605-936-00 FU-16 (S/N, Up to 12585) 1-527-345-00 4.43MHz **X1** PRINTED CIRCUIT BOARD FU-16 (S/N, 12586 and higher) **№** 1-533-037-XX HOLDER, FUSE

EK-2 BOARD

1-604-354-00 PRINTED CIRCUIT BOARD,

IC1 8-719-104-42 PS4005-L (NEC)

500 A	4	
<u>∕1\</u> F5	1-532-325-00	6.3A (TIME LAG)
200000000000000000000000000000000000000	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	
% .		FA (TIME ! AG)
<u>/i</u> ∖ F6	1-532-299-00	5A (TIME LAG)
100000000000000000000000000000000000000		65 N 18 17 1 3 1 3 1 1
200000000000000000000000000000000000000		18 18 18 18 18 18 18 18 18 18 18 18 18 1
 	1-532-325-00 🛞	6.3A (TIME LAG)
		\$90.70 of 1V (1)
300000000000000000000000000000000000000		1 4 4 8 1 W 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	1-532-299-00	5A (TIME LAG)

EK-3 BOARD

1-604-355-00 PRINTED CIRCUIT BOARD,

EK-3

HP-5 BOARD

1-604-378-00 PRINTED CIRCUIT BOARD,

8-719-104-42 PS4005-L (NEC) IC1

C1 1-108-579-00 MYLAR 0.01 5% 50V

1-507-553-00 JACK "HEADPHONES"

RV1 1-228-218-00 VAR, CARBON 500x2

EM-1 BOARD

A-6748-123-B DME ASS'Y EM-1

NOTE:

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KY-9 BOA	PD.		IC11	8-759-245-12	TC4512BP (MC14512BCP; MOT)
KY-9 BUA	אט		IC12	8-759-245-16	TC4516BP (MC14516BCP; MOT)
	A-6717-205-A	MOUNTED CIRCUIT BOARD,	IC13	8-759-245-28	TC4528BP (MC14528BCP; MOT)
•	A-0717-200-A	KY-9 (WITH KY-14, DP-9)	IC14	8-759-240-01	TC4001BP (CD4001BE; RCA)
	1-604-347-00	PRINTED CIRCUIT BOARD,	IC15	8-759-240-13	TC4013BP (CD4013BE; RCA)
	1-004-347-00	KY-14			
	1-604-349-00	PRINTED CIRCUIT BOARD,	IC16	8-759-240-13	TC4013BP (CD4013BE; RCA)
	1-004-043-00	DP-9	IC17	8-759-240-11	TC4011BP (CD4011BE; RCA)
		ALCORD AND AND A	IC18	8-759-240-11	TC4011BP (CD4011BE; RCA)
			IC19	8-759-045-84	MC14584BCP (MOTOROLA)
			IC20	8-759-240-30	TC4030BP (CD4030BE; RCA)
C3	1-102-108-00	CERAMIC 150PF 10% 50V			
C4	1-102-119-00	CERAMIC 0.0015 10% 50V	IC21	8-759-240-30	TC4030BP (CD4030BE; RCA)
C6	1-102-114-00	CERAMIC 470PF 10% 50V	IC22	8-759-245-12	TC4512BP (MC14512BCP; MOT)
C7	1-102-112-00	CERAMIC 330PF 10% 50V	1C23	8-759-240-99	TC4099BP (CD4099BE; RCA)
C8	1-131-377-00	TANTALUM 10 10% 10V	IC24	8-759-645-17	M54517P (MITSUBISHI)
00			IC25	8-759-240-99	TC4099BP (CD4099BE; RCA)
C9	1-131-346-00	TANTALUM 0.68 10% 35V			
C11	1-102-114-00	CERAMIC 470PF 10% 50V	IC26	8-759-245-12	TC4512BP (MC14512BCP; MOT)
C12	1-102-114-00	CERAMIC 470PF 10% 50V	IC27	8-759-645-17	M54517P (MITSUBISHI)
C13	1-102-113-00	CERAMIC 390PF 10% 50V	IC28	8-759-645-17	M54517P (MITSUBISHI)
C14	1-102-114-00	CERAMIC 470PF 10% 50V	IC29	8-759-901-56	SN74LS156N (TI)
C25	1-102-110-00	CERAMIC 220PF 10% 50V	IC31	8-759-100-64	μPA64H (NEC)
		AND THE STATE OF STATE OF	+ . 8		
	•		IC32	8-759-100-54	μPA54H (NEC)
CN4	1-560-454-00	40P	1C33	8-759-100-54	μPA54H (NEC)
			IC34	8-759-100-64	μPA64H (NEC)
Ð1	8-719-815-55	1S1555			
D2	8-719-904-55	GL-5HD5	PL1	1-518-386-00	5V, 30mA
D3	8-719-904-55	GL-5HD5	PL2	1-518-386-00	5V, 30mA
D4:	8-719-904-55	GL-5HD5	PL3	1-518-386-00	5V, 30mA
D5	8-719-904-55	GL-5HD5			
				•	
D6	8-719-904-55	GL-5HD5			
D7	8-719-803-21	TLR321	Q1	8-729-374-02	2SB740
D8	8-719-803-21	TLR321	Q2	8-729-374-02	2SB740
D9	8-719-803-21	TLR321	03	8-729-374-02	2SB740
D10	8-719-803-21	TLR321	Q4	8-729-374-02	2SB740
			Q5	8-729-374-02	2SB740
					000740
			Q6	8-729-374-02	2SB740
IC1	8-759-900-05	SN74LS05N (TI)	Q7	8-729-374-02	2SB740
IC2	8-759-171-05	μPC7805H (NEC)	Ω8	8-729-374-02	2SB740
IC3	8-759-645-17	M54517P (MITSUBISHI)			
IC4	8-759-240-99	TC4099BP (CD4099BE; RCA)			
IC5	8-759-245-12	TC4512BP (MC14512BCP; MOT)		4 046 700 00	BATTA 1 T4 40/ 4/01A
			R1	1-212-502-00	METAL 51 1% 1/2W
IC6	8-759-245-12	TC4512BP (MC14512BCP; MOT)	R2	1-212-502-00	METAL 51 1% 1/2W
IC7	8-759-241-61	TC40161BP (CD40161BE; RCA)	R3	1-212-502-00	METAL 51 1% 1/2W
IC8	8-759-045-84	MC14584BCP (MOTOROLA)	R4	1-212-502-00	METAL 51 1% 1/2W
IC9	8-759-245-12	TC4512BP (MC14512BCP; MOT)	R15	1-214-100-00	METAL 47 1% 1/4W
IC10	8-759-240-15	TC4015BP (CD4015BE; RCA)			

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
R16	1-214-100-00	METAL 47 1% 1/4W	S6 ⁻	1-554-318-11	KEY "PREVIEW" 12 SQUARE
R17	1-214-100-00	METAL 47 1% 1/4W		1-518-450-31	PILOT LAMP 5V 60mA
R18	1-214-100-00	METAL 47 1% 1/4W		3-706-480-01	KEY TOP (WHITE)
R19	1-214-100-00	METAL 47 1% 1/4W	S7	1-554-318-21	KEY "AUTO EDIT" 12 SQUARE
R20	1-214-100-00	METAL 47 1% 1/4W		1-518-450-31	PILOT LAMP 5V 60mA
				3-706-480-11	KEY TOP (RED)
R21	1-214-100-00	METAL 47 1% 1/4W	S8	1-554-318-11	KEY "REVIEW" 12 SQUARE
R26	1-214-108-00	METAL 100 1% 1/4W		1-518-450-31	PILOT LAMP 5V 60mA
R35	1-214-119-00	METAL 300 1% 1/4W		3-706-480-01	KEY TOP (WHITE)
R36	1-214-119-00	METAL 300 1% 1/4W	S9	1-554-318-11	KEY "IN" 12 SQUARE
R37	1-214-119-00	METAL 300 1% 1/4W		1-518-450-31	PILOT LAMP 5V 60mA
	200	Ann .		3-706-480-01	KEY TOP (WHITE)
R38	1-214-119-00	METAL 300 1% 1/4W	S10	1-554-318-11	KEY "OUT" 12 SQUARE
R39	1-214-108-00	METAL 100 1% 1/4W		1-518-450-31	PILOT LAMP 5V 60mA
R40	1-214-119-00	METAL 300 1% 1/4W		3-706-480-01	KEY TOP (WHITE)
R41	1-214-108-00	METAL 100 1% 1/4W		•	
R42	1-212-502-00	METAL 51 1% 1/2W	S11	1-554-318-11	KEY "STANDBY" 12 SQUARE
	200 g 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	इ र्थ मुच्चित्रकारी, जारा सामगणिक वर्षे		1-518-450-31	PILOT LAMP 5V 60mA
R43	1-212-502-00	METAL 51 1% 1/2W		3-706-480-01	KEY TOP (WHITE)
R44	1-212-502-00	METAL 51 1% 1/2W	S12	1-553-551-21	KEY "REC" 17 SQUARE
R45	1-212-502-00	METAL 51 1% 1/2W		1-518-450-21	PILOT LAMP 5V 60mA
R46	1-212-502-00	METAL 51 1% 1/2W		3-706-481-01	KEY TOP (RED)
R47	1-212-502-00	METAL 51 1% 1/2W	S13	1-554-318-11	KEY "EDIT" 12 SQUARE
	March 1997	Service Control of the Control of th		1-518-450-31	PILOT LAMP 5V 60mA
R48	1-212-502-00	METAL 51 1% 1/2W		3-706-480-01	KEY TOP (WHITE)
R49	1-212-502-00	METAL 51 1% 1/2W	S14	1-554-318-31	KEY "EJECT" 12 SQUARE
R50	1-212-502-00	METAL 51 1% 1/2W		1-518-450-31	PILOT LAMP 5V 60mA
R51	1-212-502-00	METAL 51 1% 1/2W		3-706-480-21	KEY TOP (BLUE)
R52	1-212-502-00	METAL 51 1% 1/2W	S15	1-553-551-11	KEY "REW" 17 SQUARE
	AV 16 2-3	and the first section of the section		1-518-450-21	PILOT LAMP 5V 60mA
R53	1-212-502-00	METAL 51 1% 1/2W		3-706-481-01	KEY TOP (WHITE)
R54	1-212-502-00	METAL 51 1% 1/2W			•
R55	1-212-502-00	METAL 51 1% 1/2W	S16	1-553-551-11	KEY "PLAY" 17 SQUARE
R56	1-212-502-00	METAL 51 1% 1/2W		1-518-450-21	PILOT LAMP 5V 60mA
		a w		3-706-481-01	KEY TOP (WHITE)
			S17	1-553-551-11	KEY "FF" 17 SQUARE
		Sec. 9		1-518-450-21	PILOT LAMP 5V 60mA
S1	1-554-318-11	KEY "ASSEMBLE" 12 SQUARE	•	3-706-481-01	KEY TOP (WHITE)
	1-518-450-31	PILOT LAMP 5V 60mA	S18	1-553-551-32	KEY "STOP" 17 SQUARE
	3-706-480-01	KEY TOP (WHITE)		1-518-450-21	PILOT LAMP 5V 60mA
S2	1-554-318-11	KEY "VIDEO INS" 12 SQUARE		3-706-481-21	KEY TOP (BLUE)
	1-518-450-31	PILOT LAMP 5V 60mA	S19	1-554-318-11	KEY "SEARCH" 12 SQUARE
	3-706-480-11	KEY TOP (WHITE)		1-518-450-31	PILOT LAMP 5V 60mA
S3	1-554-318-11	KEY "AUDIO 1 INS" 12 SQUAI	RE	3-706-480-01	KEY TOP (WHITE)
	1-518-450-31	PILOT LAMP 5V 60mA	S20	1-516-994-00	LEVER SLIDE "VIDEO"
	3-706-480-01	KEY TOP (WHITE)			
S4	1-554-318-11	KEY "AUDIO 2 INS" 12 SQUAI	RE Ş21	1-552-539-00	KEY "TRIM -"
	1-518-450-31	PILOT LAMP 5V 60mA	S22	1-552-539-00	KEY "TRIM +"
	3-706-480-01	KEY TOP (WHITE)	S23	1-552-539-00	KEY "ENTRY"
S5	1-554-318-11	KEY "PREROLL" 12 SQUARE	S24	1-552-539-00	KEY "LAP"
	1-518-450-31	PILOT LAMP 5V 60mA	S25	1-552-539-00	KEY "RESET"
	3-706-480-01	KEY TOP (WHITE)			
	•		S26	1-552-539-00	KEY "PLAYER"
			S27	1-552-539-00	KEY "RECORDER"

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
LV-1 BOAR	n		C24	1-109-687-00	DIPPED MICA 390PF 1% 500V
EV-1 BOAII			C26	1-109-549-00	DIPPED MICA 390PF 5% 100V
	1-604-371-00	PRINTED CIRCUIT BOARD,	C33	1-107-211-00	MICA 24PF 5% 500V
	1-004-071-00	LV-1	C36	1-108-563-00	MYLAR 0.0022 5% 50V
					MICA 10PF 5% 50V
S 1	1-516-994-00	LEVER SLIDE "VIDEO LEVEL"	C48	1-107-202-00	
31	1-010-00-	LEVEN SEIDE VIDEO LEVEE	*	1-107-206-00	MICA 15PF 5% 50V
				1-107-026-00	MICA 5.1PF 500V
			C52	1 100 560 00	MVI AB 0.0030 EW EOV
			C52 C56	1-108-569-00 1-131-498-00	MYLAR 0.0039 5% 50V TANTALUM 1 20% 25V
			C66	1-131-359-00	TANTALUM 10 20% 25V
MB-8 BOAF	· n		C106		
MD-0 BOAT	10		C108	1-102-759-00	CERAMIC 62PF UJ 5% 50V
	A 6700 470 A	MOUNTED CURCLUT BOARD	C108	1-131-361-00	TANTALUM 2.2 20% 20V
	A-6728-470-A	MOUNTED CIRCUIT BOARD,	Cili	1-131-361-00	TANTALUM 2.2 20% 20V
		MB-8	0444	4 400 555 60	
CN1111	1 564 654 00	060	C114	1-108-555-00	MYLAR 0.001 5% 50V
CN111	1-561-654-00	86P	C116	1-109-157-00	DIPPED MICA 300PF 5% 500V
CN112	1-561-654-00	86P	C117 C118	1-109-158-00 1-131-359-00	DIPPED MICA 330PF 5% 500V
CN113	1-561-654-00	86P	C121	*	TANTALUM 10 10% 25V
CN114	1-561-654-00	86P	CIZI	1-107-157-00	MICA 27PF 5% 500V
CN115	1-561-654-00	86P	C122	1-107-159-00	MICA 33PF 5% 500V
ON1110	1 501 054 00	000	C122	1-108-603-00	MYLAR 0.1 5% 50V
CN116	1-561-654-00	86P	C138	1-108-603-00	
CN117	1-561-654-00	86P	C148	1-108-503-00	MYLAR 0.1 5% 50V MYLAR 0.0047 5% 50V
CN142	1-564-773-11	40P	C210	1-108-571-00	
			C210	1-108-555-00	MYLAR 0.001 5% 50V
			0044	1 400 000 00	
			C214	1-108-603-00	MYLAR 0.1 5% 50V
			C304	1-131-345-00	TANTALUM 0.47 20% 35V
MD 0 DO 4 D	· ·		C401	1-107-026-00	MICA 5.1PF 500V
MB-9 BOAF			C402	1-107-026-00	MICA 5.1PF 500V
	A 6700 000 A	MOUNTED OFFICER DO A DD	C501	1-108-567-00	MYLAR 0.0033 5% 50V
	A-6728-238-A	MOUNTED CIRCUIT BOARD,	C502	1-108-555-00	MYLAR 0.001 5% 50V
		MB-9	C503	1-108-567-00	MYLAR 0.0033 5% 50V
CN51	1 561 654 00	oen	C504	1-108-555-00	MYLAR 0.001 5% 50V
CN51 CN52	1-561-654-00 1-561-654-00	86P	C505	1-108-555-00	MYLAR 0.001 5% 50V
		86P	C506	1-108-555-00	MYLAR 0.001 5% 50V
CN53	1-555-700-00	WIRE ASS'Y, FLAT 34P (370mm)			
CN54	1-560-547-00	40P	CV101	1-141-167-00	TRIMMER, 2.5PF ~ 18PF
			CV102	1-141-246-00	TRIMMER, 2.5PF ~ 18PF
			CV401	1-141-240-00	TRIMMER 20PF
			0,101		and higher(PAL))
			CV402	1-141-240-00	TRIMMER 20PF
MD-12 BOA	PD .		••••		and higher(PAL))
MD-12 BOA	NAD.			, , , , , , , , , , , , , , , , , , , ,	•
	A 6711 202 A	MOUNTED CIRCUIT DOADD	D1	8-719-815-55	181555
	A-6/11-302-A	MOUNTED CIRCUIT BOARD,	D2	8-719-815-55	1\$1555
		MD-12	D3	8-719-815-55	1\$1555
CO.	1 107 202 00	5410.4 40DE E0/ E001/	D4	8-719-815-55	1\$1555
C9	1-107-202-00	MICA 16PF 5% 500V	D5	8-719-101-97	1SS97-1
	1-107-206-00	MICA 15PF 5% 500V			
010	\1.107-026-00	MICA 5.1PF 500V			
C16	1-131-371-00	TANTALUM 10 10% 16V			
C19	1-108-611-00	MYLAR 0.22 5% 50V			
C20	1-131-356-00	TANTALUM 3.3 20% 25V			
C21	1-108-559-00	MYLAR 0.0015 5% 50V			
C22	1-108-579-00	MYLAR 0.01 5% 50V			

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
D6	8-719-101-97	1SS97-1			91
D7	8-719-815-55	1\$1555	IC504	8-759-240-13	TC4013BP (CD4013BE; RCA)
D8	8-719-815-55	181555	IC505	8-759-240-01	TC4001BP (CD4001BE; RCA)
D9	8-719-815-55	1\$1555	IC506	8-759-240-23	TC4023BP (CD4023BE; RCA)
D10	8-719-815-55	1\$1555	IC507	8-759-240-11	TC4011BP (CD4011BE; RCA)
			IC508	8-759-240-11	TC4011BP (CD4011BE; RCA)
D11	8-719-815-55	1S1555			
D12	8-719-815-55	1S1555			A Company
D101	8-719-815-59	1S1555-S			3.5
D102	8-719-815-55	1S1555	LV1	1-407-566-00	VAR 3.3µH
D103	8-719-915-43	FC54M	LV101	1-407-572-00	VAR 33µH
			EV 101	1-407-372-00	V-11. 00011
D104	8-719-815-55	1S1555			
D201	8-719-815-55	1S1555			
D202	8-719-815-55	1\$1555	Ω1	8-729-663-47	2SC1364
D501	8-719-815-55	1\$1555	Q4	8-729-201-04	2SC2878
			Ω5	8-724-375-01	2SC403C
DL 101	1-415-096-00	0.3µS	Q6	8-724-375-01	2SC403C
DE 101	(S/N. up to 1	NAZ, + £5, 8	Q7	1 (1 (A)	(1) (1) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
	1-415-096-31	0.3µS	u,	8-729-201-04	2SC2878
	(S/N. 13726 a		00	0.704.075.04	2SC403C
	(3/14, 13/20)	and riigher,	Q8 [°]	8-724-375-01	
			Ω9	8-729-113-32	2SB733
			Q10	8-729-663-47	2SC 1364
FL1	1-231-380-00	LOW PASS	Q13	8-724-375-01	2SC403C
	(S/N, up to 1	3525)	Q14	8-724-375-01	2SC403C
	1-231-380-21			0.704.075.04	2004000
	(S/N. 13526 a	and higher)	Q15	8-724-375-01	2SC403C
FL2	1-231-378-00	LOW PASS	Q16	8-724-375-01	2SC403C
FL3	1-235-009-00	HIGH PASS	Q17	8-724-375-01	2SC403C
	(S/N, up to 1		Q18	8-724-375-01	2SC403C
	1-235-009-21		Q19	8-724-375-01	2SC403C
	(S/N. 13526	and higher)		0.700.000.47	0004604
FL101	1-235-013-21	BAND PASS	Q20	8-729-663-47	2SC1364
FL102	1-231-578-00	LOW PASS	Q21	8-724-375-01	2SC403C
	(S/N. up to 1		Q22	8-724-375-01	2SC403C
	1-231-578-21		Q23	8-729-663-47	2SC1364
	(S/N. 13526	and higher)	Q101	8-729-663-47	2SC1364
		and magnetic			
			Q102	8-724-375-01	2SC403C
IC1	8-751-300-00	CX-130 (SONY)	Q103	8-724-375-01	2SC403C
IC2	8-751-310-00	CX-131A (SONY)	Q104	8-724-375-01	2SC403C
IC3	8-759-200-60	TA7060AP (TOSHIBA)	Q105	8-729-663-47	2SC1364
IC4	8-751-300-00	CX-130 (SONY)	Q106	8-724-375-01	2SC403C
IC101	8-751-300-00	CX-130 (SONY)			
.0.0.	0.0.0000		Q107	8-724-375-01	2SC403C
IC102	8-751-880-00	CX-188 (SONY)	Q108	8-724-375-01	2SC403C
IC103	8-751-300-00	CX-130 (SONY)	Q109	8-729-612-77	2SA 1027R
IC103	8-759-345-38	HD14538BP (HITACHI)	Q110	8-729-663-47	2SC1364
IC201	8-743-890-00	BX-389 (SONY)	Q111	8-729-663-47	2SC 1364
IC201	8-759-240-66	TC4066BP (CD4066BE; RCA)			
10202	3-733-240-00	, C-000Di (OD-000DE) NOA!	Q201	8-724-375-01	2SC403C
IC203	8-759-145-58	μPC4558C (NEC)	Q202	8-724-375-01	2SC403C
IC301	8-749-909-15	BX3915A (SONY)	Q203	8-724-375-01	2SC403C
IC501	8-759-345-38	HD14538BP (HITACHI)			
IC501	8-759-240-15	TC4015BP (CD4015BE; RCA)		4	
IC502	8-759-345-38	HD14538BP (HITACHI)			
10303	0-709-040-00	HE 14000BL (FILLACHI)	R20	1-215-422-00	METAL 1.1K 1/6W 1%
			R24	1-215-430-00	METAL 2.4K 1/6W 1%
*					

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R38	1-214-122-00	METAL 390 1/4W 1%	MS-5 BO	ARD	
	garanda Vizita ya 1995 1998-ya 19	Million Begins Millson		1-604-368-00	PRINTED CIRCUIT BOARD, MS-5
RV1 RV2	1-224-250-XX 1-224-251-XX	VAR, METAL 2.2K VAR, METAL 4.7K			
RV3 RV4 RV5	1-224-249-XX 1-224-251-XX 1-224-250-XX	VAR,METAL 1K VAR,METAL 4.7K VAR,METAL 2.2K	D1	8-719-200-02	10E2 (ON THE MS-5(D))
RV6 RV101	1-224-250-XX 1-224-249-XX	VAR, METAL 2.2K VAR, METAL 1K			
RV102 RV103 RV201	1-224-251-XX 1-224-254-XX 1-224-254-XX	VAR, METAL 4.7K VAR, METAL 47K VAR, METAL 47K	S1	1-516-994-00	LEVER SLIDE FOR MS-5(A) "AUDIO LIMITER FOR MS-5(D) "DUB/LINE" FOR MS-5(E) "LOCAL/REMOTE
RV202 RV203 RV501 RV502 RV504	1-224-250-XX 1-224-871-00 1-224-256-XX 1-224-256-XX 1-224-256-XX	VAR, METAL 2.2K VAR, METAL 1M VAR, METAL 220K VAR, METAL 220K VAR, METAL 220K		1-516-995-00	LEVER SLIDE FOR MS-5(B) "MIXING SELECT" FOR MS-5(C) "MODE SELECT"
S1	1 552 500 00	1996 - 1			
	1-552-509-00	DIP			
T101	1-425-880-21	BURST AMP	PC-7 BO	ARD	
TH1	1-800-200-00	S-3K		1-604-348-00	PRINTED CIRCUIT BOARD, PC-7
X101 X102	1-527-231-00 1-527-374-00	OSC 4.43MHz OSC 5.36MHz	IC1	8-719-104-42	PS4005-L (NEC)

MF-1 BOARD

1-604-365-00 PRINTED CIRCUIT BOARD,

.

R8 1-207-628-00 WIRE 10 10% 3W

PC-8 BOARD

A-6742-046-A MOUNTED CIRCUIT BOARD,
PC-8

Note: D1 and Q1 are precisely calibrated their physical position on PC-8 board in the factory by precision fixture.

Do not replace only D1 and Q1. Replace the entire PC-8 board, A-6742-046-A.

NOTE:

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 Replace only with same components as specified. 2. Parts printed in Bold-Face type are normally stocked for replacement purposes. The remaining parts shown in this manual are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

PC-9, PC-12, PC-14, PD-14 (PD-15, PD-17, PD-21, DR-9, DR-8)

Ref. No.	Parts No.	Description		Ref. No.	Parts No.	Description
PC-9 BOAR				PD-14 BO	ARD	
	1-604-351-00	PRINTED CIRCUIT BO	ARD, PC-9	1	∱ A-6723-158-C	MOUNTED CIRCUIT BOARD, PD-14 (WITH PD-15, PD-17, PD-21, DR-9, DR-8)
	,				1-560-035-00 1-604-361-00	B to B, 5P PRINTED CIRCUIT BOARD,
C1	1-131-379-00	TANTALUM 22 10%	10V		1-604-362-00	PD-15 PRINTED CIRCUIT BOARD, PD-17
IC1	8-759-133-90	μPC339C (NEC)	•		1-608-010-00	PRINTED CIRCUIT BOARD, PD-21
IC2 IC3	8-719-104-42 8-719-104-42	PS4005-L (NEC) PS4005-L (NEC)	. ,		1-604-369-00	PRINTED CIRCUIT BOARD, DR-9
IC4	8-719-104-42	PS4005-L (NEC)			1-604-373-00	PRINTED CIRCUIT BOARD, DR-8
				C324 C332 C333	1-108-555-00 1-107-187-00 1-107-187-00	MYLAR 0.001 5% 50V MICA 560PF 5% 500V MICA 560PF 5% 500V
	•			C334	1-131-356-00 1-131-365-00	TANTALUM 3.3 10% 25V TANTALUM 10 10% 25V CERAMIC 0.1 25V
PC-12 BOA	RD			C365	1-161-025-00	OSC.
	A-6742-047-A	MOUNTED CIRCUIT I	BOARD, PC-12	CP301	1-464-139-00	USC.
	position precision Do not	Of are precisely calibrated on PC-12 board in the fixture. replace only D1 and O' C-12 board, A-6742-047-7	ne factory by 1. Replace the	D301 D302 D303 D304 D305	8-719-151-07 8-719-911-55 8-719-815-55 8-719-815-55 8-719-112-88	RD5.1E-B U05G 1S1555 1S1555 RD12F-B
				D306 D311 D312 D313 D314	8-719-102-07 8-719-200-02 8-719-113-07 8-719-113-07 8-719-200-02	RD2.0E 10E-2 RD13E-B RD13E-B 10E-2
PC-14 BO	ARD.			IC301 IC303 IC304 IC305	8-759-145-58 8-759-979-12 8-759-145-58 8-759-645-17	μPC4558C (RC4558; RAYTHEON) μA7912UC (FSC) μPC4558C (RC4558; RAYTHEON) M54517P (MITSUBISHI)
FC-14 BU		PRINTED CIRCUIT	BOARD		- · · · · · · · · · · · · · · · · · · ·	
	1-604-353-00	THIN ES CHOOL	PC-14	Q301 Q302 Q304 Q305	8-729-374-72 8-729-374-72 8-729-177-43 8-729-103-43	2SA747 2SA747 2SD774 2SB734
IC1	8-719-104-42	PS4005-L (NEC)		4300	5 7 25 100 Fd	

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PD-14 (PD-15, PD-17, PD-21, DR-9, DR-8), PR-33, PW-50

	Ref. No.	Parts No.	Description	Ref. No. Parts No.	Description
	Q306	8-729-168-11	2SC2681	PR-33 BOARD	
		=	2SC1116		
	Q307	8-729-311-62		1-604-511-00	PRINTED CIRCUIT BOARD,
	O308	8-729-177-43	2SD774		PR-33
	Q309	8-729-103-43	2SB734		
	Q310	8-729-168-11	2SC2681		
	Q311	8-729-311-62	2SC1116		
	Q311	8-723-302-00	2SK43-2	S1 1-516-994-00	LEVER SLIDE "REMOTE 1/2"
		8-729-177-43	2SD774		
	Q313		2SB740		
	Q314	8-729-374-02	2SC2315		•
	Q315	8-729-331-53	25(2515		
	Q316	8-729-663-47	2SC1364		
	Q317	8-729-377-12	2SA771		AND THE RESERVE OF THE PERSON
	Q318	8-729-168-11	2SC2681		
	Q319	8-729-168-11	2SC2681		
		8-729-374-02	2SB740		
	Q320	0-729-374-02	205740	/S/N	. Up to 12585 (PAL)
		0.700.004.04	2SC2878	PW-50 BOARD (S/N	. Up to 10235 (SECAM) /
	Q321	8-729-201-04		000000000000000000000000000000000000000	
	Q322	8-729-663-47	2SC1364	1-604-363-00	PRINTED CIRCUIT BOARD,
	Q323	8-729-374-02	2SB740		PW-50
	Q324	8-729-114-11	2SA1141	100000000000000000000000000000000000000	
	Q325	8-729-177-43	2SD774	/\ 1-533-037-XX	HOLDER, FUSE
,	Q326	8-729-168-11	2SC2681		
		8-729-663-47	2SC1364		
	Q330		2SB740		
•	Q331	8-729-374-02	2SA1028		
i	Q332	8-765-481-20			
	O333	8-765-481-20	2SA1028	∱ C1 1-130-160-00	FILM 0.22 20% 250V
	Q334	8-729-663-47	2SC1364		8
	Q335	8-729-663-47	2SC1364		
	Q336	8-729-374-02	2SB740	<u> </u>	CERAMIC 0.01 400V
	Q337	8-729-663-47	2SC 1364		*
	Q337 .	0-725-005-47	200 100 4		
				<u></u> £ C3 1-161-743-00	CERAMIC 0.0047 400V
	R311	1-207-619-00	WIREWOUND 0.82 10% 3W	200000000000000000000000000000000000000	
	R326	1-212-372-00	METAL 10 5% 1W	1 101 710 00	CERAMIC 0.0047 400V
	R332	1-212-352-00	METAL 0.22 5% 1W	<u> </u>	CERAWIC 0.0047 400V
	R333	1-212-352-00	METAL 0.22 5% 1W		
				Å C5 1-161-743-00	CERAMIC 0.0047 400V
				<u> </u>	
	<u></u>	1-217-465-00	FUSIBLE 0.47 10% 1W		
			866 	452000000000000000000000000000000000000	86
		- C		<u>∱</u> C6 1-161-743-00	CERAMIC 0.0047 400V
				ΔΛ	XX
				C7 1-125-250-00	ELECT 3300 200V
	RV1	1-224-249-XX	VAR, METAL 1K		ELECT 3300 200V
	RV2	1-224-249-XX	VAR, METAL 1K	C8 1-125-250-00	
				∕A C9 1-161-953-00	CERAMIC 0.0047 400V
				<u></u> € 1-161-953-00	S CENTAINIO 5.5047, 4001
				-	
		7			OFBANIC 0.0047 400V
				<u></u> € C10 1-161-953-00	CERAMIC 0.0047 400V
					9894

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R	lef. No.	Parts No.	Description	
∳c	11	1-161-953-00	CERAMIC	0.0047 400V
Ψc	12	1-161-953-00	CERAMIC	0.0047 400V
∱c	13	1-161-744-00	CERAMIC	0.01 400V
	***	esta de la companya d		
****		4 500 000 00	00	

D1	8-719-911-55	U05G		
<u></u> €CN155	1-560-008-00	3P		
<u>∱</u> CN154	1-560-034-00	6P -		
<u></u> \$\text{\$\Lambda}\$CN153	1-560-034-00	6P	*.	
Acutes	1 500 004 00	CD		
<u></u> CN152	1-560-033-00	3P		
∱ CN151	1-560-033-00	3P		

D2	8-719-911-55	U05G
D3	8-719-911-55	U05G
D4	8-719-911-55	U05G
D5	8-719-200-02	10E-2
*		

<u> </u>	1-532-350-00	4A
<u></u> ∱F2	1-532-634-00	10A, 150°C

<u></u> ∕R1	1-217-632-00	WIREWO	DUL	10	10%	10V
R3 R4	1-244-929-00 1-244-929-00	CARBON CARBON			-	

A	F	łY	1			1-5	15	357	-00 🛞	12V	75mA
	٠	93	*	**	8888B	988	***	*****			

 The shaded and A-marked components are critical to safety.
 Replace only with same components as specified. Ref. No. Parts No. Description

PW-50 BOARD ····· (S/N. 12586 and higher (PAL) S/N. 10236 and higher (SECAM))

1-421-457-00 LINE FILTER

↑1-604-363-16 PRINTED CIRCUIT BOARD,
PW-50 (S/N. 12586 to 14355 (PAL)
S/N. 10236 to 10425 (SECAM)

1-604-363-17 PRINTED CIRCUIT BOARD,
PW-50 (S/N. 14356 and higher (PAL)
S/N. 10426 and higher (SECAM)

<u>∱</u> C1 1-130-160-00	MYLAR 0.22 20% 250V
<u>^</u> C2 1-161-744-00	CERAMIC 0.01 400V
<u>∱</u> c3 1-161-741-00	CERAMIC 0.001 10% 400V
<u>∱</u> C4 1-161-741-00	CERAMIC 0.001 10% 400V
<u>^</u> C5 1-161-741-00	CERAMIC 0.001 10% 400V
<u>∱</u> C6 1-161-741-00	CERAMIC 0.001 10% 400V
C7 1-125-250-00 C8 1-125-250-00	ELECT 3300 200V ELECT 3300 200V
<u>∱</u> C9 1-161-743-00	CERAMIC 0.0047 400V
<u>∱</u> C10 1-161-743-00	CERAMIC 0.0047 400V

PW-50, PW-79 (FU-16)

Ref. No.	Parts No.	Description
<u></u> €C11	1-161-743-00	CERAMIC 0.0047 400V
<u></u> ∆ C12	1-161-743-00	CERAMIC 0.0047 400V
<u></u> €C13	1-161-744-00	CERAMIC 0.01 400V
C14	1-131-371-00	TANTALUM 10 16V
<u> </u>	1-560-033-00	3P
<u> </u>	1-560-033-00	3P
<u></u> €CN153	1-560-034-00	6P
<u>∱</u> CN154	1-560-034-00	6P (S/N. 10001 to 14355 (P) S/N. 10001 to 10425 (S))
D1:	8-719-911-55	U05G
D2	8-719-911-55	U05G
D3 D4	9-719-911-55 8-719-911-55	U05G U05G
D5	8-719-200-02	10E-2
D6	8-719-815-55	1S1555
∱ F1	1-532-350-00	4A
		*
<u>∱</u> F2	1-532-634-00	10A, 150°C
		*
A PH1	1-519-244-00	NEON PHOTO COUPLER

NO.	TF	

Q1

Q2

 The shaded and _______-marked components are critical to safety.
 Replace only with same components as specified.

2SC1364

2SD774

8-729-663-47 8-729-177-43

F	Ref. No.	Parts No.	Description
ψı	₹1	1-217-632-00	WIREWOUND 10 10% 10W
	₹3 ₹4	1-244-929-00 1-244-929-00	CARBON 220K 5% 1/2W CARBON 220K 5% 1/2W
Į, į	 R5	1-247-276-00	CARBON, NONFLAMABLE 33K 5% 1/2W
F	R11	1-247-266-00	CARBON, NONFLAMABLE 12K 5% 1/2W
i F	₹12	1-247-284-00	CARBON, NONFLAMABLE 1 68K 5% 1/2W
, I	R13	1-247-286-00	CARBON, NONFLAMABLE 1 82K 5% 1/2W
1			nd higher (PAL) nd higher (SECAM)

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Δ	Λ	R	١	1	1									٠	1	ا.	5	,	١	5	<u>,</u>	3	3	5	7	7	-1	0)(0			1	2	V	75n	١A	
•						8	9	×	ŝ		ŝ	8	ŝ			8		×	×	Ś	×			d	ć	3	Š	ė			d							

-444499496666666666	9999999999999999999999999999	
<u></u> ↑T1	1-421-457-00	LINE FILTER
100000000000000000000000000000000000000	econococococococococococococococococococ	

DIN 70 BO 4 BD	/S/N. Up to 12585 (PAL)
PW-79 BOARD	(S/N, Up to 12585 (PAL) S/N, Up to 10235 (SECAM)

	<u>∱</u> 1-413-071-22	SWITCHING REGURATOR (WITH PW-79, FU-16)
	1-533-037-XX	HOLDER, FUSE
	1-605-936-00	PRINTED CIRCUIT BOARD
		"FU-16"
C1	9-982-833-01	MYLAR 0.22 630V
C2	1-161-734-00	CERAMIC 0.0022 20% 400V
C3	1-161-734-00	CERAMIC 0.0022 20% 400V
C4	9-982-837-01	ELECT 22 400V
C5	1-130-141-00	MYLAR 0.01 20% 30V
C6	9-982-832-01	CERAMIC 0.001 500V
C7	9-982-835-01	MYLAR 0.47 50V
C8	1-108-579-00	MYLAR 0.01 5% 50V
C10	1-108-571-00	MYLAR 0.047 5% 50V
C11	9-982-836-01	MYLAR 0.068 50V
C13	9-982-840-01	ELECT 47 350V
C14	1-130-356-00	MYLAR 0.47 10% 250V
C15	1-130-356-00	MYLAR 0.47 10% 250V
C25	9-982-844-01	ELECT 10 250V
C26	9-982-844-01	ELECT 10 250V

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
		ELECT 10 350V	Ω1	8-729-950-40	ETD55-040B
C27	9-982-844-01	ELECT 10 250V	Q2	8-729-950-40	ETD55-040B
C28	9-982-844-01	ELECT 10 250V	Q3	8-763-623-00	2SC1810
C29	9-982-844-01	ELECT 10 250V	Q3 Q4	8-765-141-00	2SA911
C30	9-982-844-01	ELECT 10 250V			2SC1810
C31	9-982-834-01	MYLAR 2.2 250V	Q 5	8-763-623-00	
			-	0 700 612 77	2SA1027R.
C32	1-161-741-00	CERAMIC 0.001 20% 400V	Q6 .	8-729-612-77	and the second of the second o
C33	1-161-741-00	CERAMIC 0.001 20% 400V	Ω7	8-729-612-77	2\$A1027R
C34	9-982-834-01	MYLAR 2.2 250V	Ω8	8-729-612-77	2SA1027R
C36	1-108-579-00	MYLAR 0.01 5% 50V	Ω9	8-729-663-47	2SC1364
	Estate with a first	ALL MENT DESCRIPTIONS	Q10	8-729-965-61	2SC2656
	3 3 174	Market Barrier Commence			
			Q11	8-729-663-47	2SC1364
D1	8-719-303-41	S-34	Q12	8-729-965-61	2SC2656
D2	8-719-815-80	1S1587			$\mathcal{L}^{(n)}(\mathcal{L}^{(n)}) = \mathcal{L}^{(n)}(\mathcal{L}^{(n)})$
D3	8-719-815-80	1S1587			
D4	8-719-815-80	1S1587			
D5	8-719-815-80	1\$1587	. R1	1-211-514-00	CARBON, NONFLAMMABLE
D6	8-719-815-80	1S1587			47 1/4W 5%
		1. 在基本数:	R2	1-211-520-00	CARBON, NONFLAMMABLE
D7	8-719-815-80	1S1587		neb"	82 1/4W 5%
D8 .	8-719-912-52	ESAC25-02C	- R3	1-211-518-00	CARBON, NONFLAMMABLE
D9	8-719-912-52	ESAC25-02C			68 1/4W 5%
D10	8-719-912-50	ESAC25-02N	R4	1-211-528-00	CARBON, NONFLAMMABLE
Dio					180 1/4W 5%
D11	8-719-912-52	ESAC25-02C	R5	1-206-698-00	METAL 27K 2W 5%
	8-719-924-06	ERC24-06S			
D12	8-719-924-06	ERC24-06S	R6	1-206-698-00	METAL 27K 2W 5%
D13	The second secon	RD5.6E-B2Z	R7	1-206-698-00	METAL 27K 2W 5%
D14	8-719-156-25	RD5.1E-B	R8	1-206-698-00	METAL 27K 2W 5%
D15	8-719-151-07		R9	1-214-595-00	METAL 100K 1W 5%
D16	9-982-876-01	SCR, SF5G41	R10	1-214-597-00	METAL 100K 2W 5%
			NIU	1-214-557-00	METAL TOOK IN 5%
			R11	1-214-998-00	METAL 100K 1W 5%
	0.000.070.01	THERMAL, 2A 120V 147degrees	R12	1-211-553-00	CARBON, NONFLAMMABLE
F1 .	9-982-878-01	I HENWAL, 2A 1204 147 degrees	NIZ	1-211-555-00	2.7K 1/4W 5%
				1 211 E26 00	CARBON, NONFLAMMABLE
			R14	1-211-526-00	150 1/4W 5%
		NJM2903D (JRC)		4 444 500 00	CARBON, NONFLAMMABLE
IC1	8-759-729-03	MJW2903D (JAC)	R16	1-211-528-00	180 1/4W 5%
			R18	1-211-553-00	CARBON, NONFLAMMABLE
				4 3	2.7K 1/4W 5%
L1	1-421-349-00	FILTER, LINE		The second state of the	D. Albani indicati assessment
L2	1-421-329-00	10	R24	1-211-520-00	CARBON, NONFLAMMABLE
L4	1-421-348-00	6.5mH			82 1/4W
L5	9-982-877-01	20	R25	1-217-160-00	CEMENT 1 5W
L6	9-982-877-01	20	R26	9-982-828-01	METAL 68 1W
			R27	9-982-830-01	PC 100 3W
L7	9-982-877-01	20	R29	1-214-595-00	METAL 100K 1W 5%
L8	9-982-877-01	20		45 tu	
L9	9-982-877-01	20	R30	1-214-595-00	METAL 100K 1W 5%
L10	9-982-877-01	20	R31	9-982-829-01	METAL 0.68 1W 5%
L11	1-421-329-00	10	R32	9-982-829-01	METAL 0.68 1W 5%
	0		R37	1-244-869-00	CARBON 680 1/2W 5%
L12	1-421-329-00	10			
L12	1-421-329-00	10			*
	1-421-329-00	10			
L14		10			
L15	1-421-329-00	10			
NOTE					
NOTE:			2 Parte	printed in Rold F	ace type are normally stocked for
		and the second s	~. 10113	PERILOG III DOIGH	the type are nothing brooked to

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Ref. N	o. Parts No.	Description		Ref. No.	Parts No.	Description	
RV1	9-982-831-01	METAL, VAR 1K 1/2W		000000000000000000000000000000000000000	acconstantentelectronicos	工作服务 计二十字 医脑探内 網絡 马	
RV2	9-982-831-01	METAL, VAR 1K 1/2W		∕ ∱ C32	1-161-741-00	CERAMIC 0.001 20%	400V
II V Z	3-302-031-01	17 May 10 State 19 P. State 19 P. H.	557	<u>/1/</u> 002		100 C 100 000 000 000 000 000 000 000 00	
		1. LESS 12 12 12 12 12 13 13 15 15 15 15 15 15 15 15 15 15 15 15 15	300		Ac.	Congress of Fitter	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	47	1868646616000000000000000000000000000000		- いういは4 ・い 4回音で発して	Kiji ka
T1	1-543-100-00	DRIVE		∕ ∖ C33	1-161-741-00	CERAMIC 0.001 20%	400V
T2	1-543-100-00	DRIVE				PARKS MARKS	
Т3	1-446-982-00	CONVERTER	* 4	70 y	a 200 Min (a)	wasyo make be	
	. 33 %	ranga sang s	UK.	C34	9-982-834-01	MYLAR 2.2 250V	
	5	MARKET TO CAMP VICE IS	新.	C36	1-108-239-00	MYLAR 0.01 10% 50)V
		经股份的 化二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十	97	C37	1-108-603-00	MYLAR 0.1 5% 50V	
				C38	1-130-141-00	MYLAR 0.01 20% 63	30V
	.5	980 t 0895 C # 0880 490,0 F	179.				
		12596 and higher (BAL)	1771			#6-3 IN 500 FT 18	
PW-79		N. 12586 and higher (PAL) N. 10236 and higher (SECAM)				の機器制度と 一つ (2) カウス キャンダ	
	(3/1	»		D1	1-806-262-51	CTU-26S	t to the
	1-413-071-23	SWITCHING REGULATOR		D3	8-719-903-29	ERB43-04	
		the first of the f	1.74	D4	8-719-815-87	1S1587	
연 취임	2.6	(, , , , , , , , , , , , , , , , , , ,		D5	8-719-815-87	1S1587	
1.5	1-533-037-XX		\$ 1.	D6	8-719-815-87	1S1587	
	1-605-936-13	•				「養養管理」。 - 166 - 4 - 30 - 5 - 15 - 5 170-20-20-20-20-30-30-30-30-30-30-30-30-30-30-30-30-30	
	n i karangan kangan dan Pilipin gan	Control of the Contro	U-16"	D7	8-719-815-87	1S1587	
		PRINTED CIRCUIT BOARD		D8	9-983-533-01	ESAC87-009	
1 7	in the commence of the service Americans		w-79"	D9	8-719-903-16	ESAC85-009	1,2
	er gjer skrive	1 8 7 \$ A 8 1 14 14 14 14 14 14 14 14 14 14 14 14 1	2.5	D10	8-719-903-16	ESAC85-009	
			. 40	D11	8-719-924-06	ERC24-06S	
		I WE SELECT THE RESERVE WAS IN		D12	8-719-924-06	ERC24-06S	
C1	9-982-833-01	MYLAR 0.22 630V	erá Çe			18 80 M - 20 W - 215 W	
\$8000000000000000000000000000000000000		TATES THE STREET	35			rewith a project of	
<u></u>	1-161-742-00	CERAMIC 0.0022 20% 400V	447	F1	and service the first	The Addition to the Company of the C	
		1 A T 987 - 00. TOPS A PT		гі	9-982-878-01	THERMAL, 2A 120V	14/degrees
		*				,	
№ С3	1-161-742-00	CERAMIC 0.0022 20% 400V					
		· 《···································		IC1	8.759.729.03	NJM2903D (JRC)	
	× 17 (1)				0-700-720-00	(VOIVI2303D (0)(C)	
C4	9-982-837-01	ELECT 22 400V	. 14				
C5	1-130-141-00	MYLAR 0.01 20% 630V		:::::::::::::::::::::::::::::::::::::::			
	The thing paying it		2.	<u></u> ∧ L1	1-421-349-00	FILTER, LINE	
C6	9-982-832-01	CERAMIC 0.001 500V		***			
C7	9-983-529-01	NON POLAR 0.47 50V		L2	1-421-329-00	10	
C8	1-108-239-00	MYLAR 0.01 10% 50V		L3	1-407-161-XX	22	
C10	1-108-234-00	MYLAR 0.0047 10% 50V		L4	9-983-537-01	5mH	
C11	1-108-237-00	MYLAR 0.068 10% 50V		L5	9-982-877-01	20	
040	0.000.040.04	ELECT 47 250V					
C13	9-982-840-01	ELECT 47 350V MYLAR 0.56 10% 250V	7.7	L6	9-982-877-01	20	
C14	9-983-530-01	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		L7	9-982-877-01	20	
C15	9-983-530-01	MYLAR 0.56 10% 250V		L8	9-982-877-01	20	
C25 C26	9-982-844-01	ELECT 10 250V ELECT 10 250V		L9	9-982-877-01	20	
G20	9-982-844-01			L10	9-982-877-01	20	
027	21 401 0 000 044 04	100 A (4)					•
C27	9-982-844-01	ELECT 10 250V		L11	1-421-329-00	10	
C28 C29	9-982-844-01	ELECT 10 250V		L12	1-421-329-00	10	
C30	9-982-844-01 9-982-844-01	ELECT 10 250V		L13	1-421-329-00	10	
C30	9-982-834-01	MYLAR 2.2 250V		L14	1-421-329-00	10	
001	J-JQZ-0J4-0 I	LAII 2.2 200V		L15	1-421-329-00	10	

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
Ω1	8-729-965-61	2SC2656	R27	9-982-830-01	PC 100 3W
Q2	8-729-965-61	2SC2656	R29	9-983-525-01	METAL 100K 2W 5%
Q3	8-729-954-21	2SC2542	R30	9-983-525-01	METAL 100K 2W 5%
Q4	8-729-100-93	2SA1009A	R31	9-982-829-01	METAL 0.68 1W 5%
	8-763-623-00	2SC1810	R32	9-982-829-01	METAL 0.68 1W 5%
Q5	6-703-023-00	2301010			
Q6	8-729-173-37	2SA733	R37	1-247-236-00	CARBON 680 1/2W 5%
Q7	8-729-173-37	2SA733	R39	9-983-528-01	METAL 4700K 1/4W
Q8	8-729-612-77	2SA1027R	R40	1-213-151-00	METAL 6800 2W
Ω9	8-729-389-09	2SC1890	R41	1-213-151-00	METAL 6800 2W
Q10	8-729-965-61	2SC2656	R42	1-213-151-00	METAL 6800 2W
Q11	8-729-663-47	2SC1364	_R43	1-213-151-00	METAL 6800 2W
Q12	8-729-965-61	2SC2656	· · · · · · · · · · · · · · · · · · ·		A STATE OF THE STA
UIZ	8-725-505-01	2002000	<u>∱</u> R44	1-217-158-00	METAL 0.47 5W
D4	1 247 000 00	CARBON, NONFLAMMABLE			
R1	1-247-099-00	47 1/4W 5%			•
D 0	1 247 105 00	CARBON, NONFLAMMABLE	RV1	1-224-660-00	METAL, VAR 1K 1/2W
R2	1-247-105-00	82 1/4W 5%	RV2	1-224-249-XX	METAL, VAR 1K 1/2W
D 0	1 247 102 00	CARBON, NONFLAMMABLE	'		
R3	1-247-103-00	68 1/4W 5%		14	
	4 0 47 440 00		SCR1	8-719-801-42	SCR, SFOR1G42
R4	1-247-113-00	CARBON, NONFLAMMABLE 180 1/4W 5%	SCR2	9-983-536-01	SCR, CR6AM
R5	9-983-524-01	METAL 27K 3W 5%			
DC	0.002.524.01	METAL 27K 3W 5%	T1	1-437-148-00	DRIVE
R6	9-983-524-01		T2	1-543-100-00	DRIVE
R7	9-983-524-01	METAL 27K 3W 5% METAL 27K 3W 5%			
R8	9-983-524-01			1-447-708-00	CONVERTER
R9	9-983-525-01	METAL 100K 2W 5%	<u>∕</u> ∱T3	1-447-700-00	001472111211
R10	9-983-526-01	METAL 100K 3W 5%	Т4	9-983-538-01	STEP-UP
R11	1-214-998-00	METAL 100K 1W 5%	14	3-303-330-01	0121 01
R12	1-247-140-00	CARBON, NONFLAMMABLE			
N1Z	1-247-140-00	2400 1/4W 59	ZD1	8-719-151-07	RD5.1EB
R13	1-247-131-00	CARBON, NONFLAMMABLE	ZD2	8-719-151-07	RD5.1EB
N IS	1-247-131-00	1K 1/4W 5%			•
D14	1-247-113-00	CARBON, NONFLAMMABLE	•		
R14	1-247-113-00	180 1/4W 5%	4		
D46	1.247.112.00	•			
R16	1-247-113-00	CARBON, NONFLAMMABLE 180 1/4W 5%	,		
		180 1/4W 5/	0		
D10	1.247.141.00	CARBON, NONFLAMMABLE			
R18	1-247-141-00	2.7K 1/4W 59	4		
D10	1 247 127 00		U		
R19	1-247-127-00	CARBON, NONFLAMMABLE 680 1/4W 59	Z		
D0.4	4 047 407 00		0		
R24	1-247-127-00	CARBON, NONFLAMMABLE	,		
		680 1/4W 59	′ 0		
		:	•		
♠ R25	1-217-160-00	CEMENT 1 5W	* 4		
/172					

R26

9-983-527-01 METAL 68 1W

NOTE:

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description	
RE-3 BOA	RD	ni Të	RM-4 BOA	RD		
	A-6725-227-A	MOUNTED CIRCUIT BOARD,		1-604-370-00	PRINTED CIRCUIT BOARD	Ο,
		RE-3		1 00 / 01 0 0	RM	
	/S/N. Up to 1	1490 (PAL)				
	S/N. Up to 1	10080 (SECAM)				
	A-6725-227-B	MOUNTED CIRCUIT BOARD,				
		RE-3	CN101	1-561-028-00	36P "REMOTE 2"	
		and higher (PAL)	CN102	1-563-890-11	9P "REMOTE 1"	
	\S/N. 10081	and higher (SECAM)/	CN103	1-564-466-11	34P	
		TANTALUM 0.33 10% 35V				
C3	1-131-344-00	1S1555)				
D1 D3	8-719-815-55 8-719-815-55	404555				
D4	8-719-815-55	101EEE (S/N, Up to 11490 (F)				
D5	8-719-815-55	1S1555 (\S/N. Up to 10080 (S) /			•	
D6	8-719-815-55	1S1555				
D7	8-719-200-02	10E-2				
D8	8-719-200-02	10E-2				
		mt sylving to	RP-5-1 BO	ARD		
IC1	8-759-308-07	HA1807 (HITACHI)		A-6711-322-A	MOUNTED CIRCUIT BOA	RD
		11490 (P), 10080(S)		A-0711-022-A	MOONTED CITIEST BOA	RP-5-1
IC1	8-759-729-03	NJM2903D (JRC) (P), 10081 (S) and higher				
102	8-759-729-03	NJM2903D (JRC)				
IC2		(P), 10081 (S) and higher				
	0,111.77.0		C3	1-108-595-00	MYLAR 0.047 5% 50V	
Q1	8-729-663-47	2SC1364	C5	1-108-595-00	MYLAR 0.047 5% 50V	
	S/N. Up to	11490 (P), 10080 (S)	C12	1-108-579-00	MYLAR 0.01 5% 50V	*
			C20	1-108-579-00 1-108-579-00	MYLAR 0.01 5% 50V MYLAR 0.01 5% 50V	
R3	1-214-125-00	METAL 510 1% 1/2W	C26	1-100-575-00	WITEAN 0.01 3/8 304	
R4	1-212-533-00	METAL 1K 1% 1/2W	C34	1-108-579-00	MYLAR 0.01 5% 50V	
R13	1-217-156-00	METAL 0.22 10% 5W METAL 0.22 10% 5W	C101	1-108-579-00	MYLAR 0.01 5% 50V	
R15	1-217-156-00	WIETAL 0.22 10% 5W	C102	1-108-579-00	MYLAR 0.01 5% 50V	
			C104	1-109-567-00	MICA 270PF 5% 500V	
RV1	1-224-253-XX	VAR, METAL 22K	C105	1-108-579-00	MYLAR 0.01 5% 50V	
	S/N. Up to	11490(P), 1 008 0(S)		4 400 507 00	MACA CZODE EW EOOM	
RV2	1-224-247-XX	VAR, METAL 100	C107	1-109-567-00	MICA 270PF 5% 500V	
RV3	1-224-247-XX	VAR, METAL 100			•	
						9
	/S/	N. Up to 12585 (PAL)	D1	8-719-815-59	1S1555S	
RL-14 BO	ARD (S/I	N. Up to 10235 (SECAM)/	D2	8-719-127-07	RD2.7E-B	
	1-606-043-00	PRINTED CIRCUIT BOARD,	D3	8-719-815-55	1S1555	
	1-000-043-00	RL-14	D4	8-719-815-55	1\$1555	
			D101	8-719-815-55	1\$1555	
	4 404 974 00	TABITAL 188 10 200/ 16W	D102	0 710 915.55	1S1555	
C1	1-131-371-00	TANTALUM 10 20% 16V	D102 D103	8-719-815-55 8-719-815-55	1S1555	
			D103	8-719-815-55	181555	
D1	8-719-815-55	1S1555				
PH1	1-519-244-00	NEON PHOTO COUPLER				
FIT I	1-313-244-00					
Q1	8-729-663-47	2SC1364			•	
Q2	8-729-177-43	2SD774				
NOTES:					-	had for

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
IC1	8-743-731-00	BX-373A (SONY)	RS-3 BOA	\RD	
IC2	8-759-240-09	TC4009UBP (CD4009UBE; RCA)			
IC3	8-743-500-00	BX-350 (SONY)		A-6715-217-B	MOUNTED CIRCUIT BOARD,
IC4	8-743-500-00	BX-350 (SONY)			RS-3 (WITH RS-4)
IC5	8-751-300-00	CX-130 (SONY)		1-555-697-00	WIRE ASS'Y, FLAT 50P (25mm)
103	0-751-300-00	CA-130 (30NT)		1-564-392-00	HEADER, 50P (ON THE RS-4)
				1 001 002 00	112,42211, 301 (311 1112 113 17
IC6	8-751-300-00	CX-130 (SONY)		4 404 000 00	
IC7	8-729-677-14	2SC2771	C3	1-131-386-00	TANTALUM 33 10% 6.3V
IC8	8-729-677-14	2SC2771	C5	1-131-386-00	TANTALUM 33 10% 6.3V
			C6	1-102-110-00	CERAMIC 220PF 10% 50V
			C8	1-108-228-00	MYLAR 0.0015 5% 50V
			C10	1-108-251-00	MYLAR 0.1 10% 50V
O3	8-729-201-04	2SC2878			
Ω6	8-792-201-04	2SC2878	C11	1-108-356-00	MYLAR 0.0082 10% 50V
Q101	8-724-375-01	2SC403C	C12	1-108-246-00	MYLAR 0.047 10% 50V
Q102	8-724-375-01	2SC403C	C13	1-102-106-00	CERAMIC 100PF 10% 50V
Q103	8-724-375-01	2SC403C	C15	1-102-106-00	CERAMIC 100PF 10% 50V
			C16	1-131-345-00	TANTALUM 0.47 20% 25V
Q104	8-729-177-32	2SD773			
Q105	8-729-113-32	2SB733	C19	1-131-386-00	TANTALUM 33 10% 6.3V
Q106	8-724-375-01	2SC403C	C21	1-131-386-00	TANTALUM 33 10% 6.3V
Q107	8-724-375-01	2SC403C	C22	1-102-110-00	CERAMIC 220PF 10% 50V
Q108	8-729-177-32	2SD773	C24	1-108-228-00	MYLAR 0.0015 5% 50V
4.00	0-725-177-52	200770			
Q109	8-729-113-32	2SB733	C26	1-108-251-00	MYLAR 0.1 10% 50V
4,03	0-723-113-32	235/33	C27	1-108-356-00	MYLAR 0.0082 10% 50V
		•	C28	1-108-246-00	MYLAR 0.047 10% 50V
			C29	1-102-106-00	CERAMIC 100PF 10% 50V
R11	1-214-091-00	METAL 20 1% 1/4W	C31	1-102-106-00	CERAMIC 100PF 10% 50V
R12	1-214-091-00	METAL 20 1% 1/4W METAL 20 1% 1/4W			
		그는 그렇게 되어졌다.	C32	1-131-345-00	TANTALUM 0.47 20% 25V
R18 R19	1-214-091-00	METAL 20 1% 1/4W METAL 20 1% 1/4W	C33	1-102-114-00	CERAMIC 470PF 10% 50V
	1-214-091-00		C34	1-108-579-00	MYLAR 0.01 5% 50V
R29	1-244-850-00	CARBON 110 5% 1/2W	C36	1-108-251-00	MYLAR 0.1 10% 50V
Dao	1 244 050 00	OADDON 110 FW 1/9W	C37	1-108-240-00	MYLAR 0.015 10% 50V
R38	1-244-850-00	CARBON 110 5% 1/2W			
			C38	1-108-361-00	MYLAR 0.056 10% 50V
			C39	1-102-106-00	CERAMIC 100PF 10% 50V
5).44	4 004 040 144		C40	1-102-106-00	CERAMIC 100PF 10% 50V
RV1		VAR, METAL 1K	C42	1-102-106-00	CERAMIC 100PF 10% 50V
RV2	1-224-248-XX	VAR, METAL 470	C44	1-102-106-00	CERAMIC 100PF 10% 50V
RV3	1-224-251-XX	VAR, METAL 4.7K			
RV4		VAR, METAL 2.2K	C46	1-102-114-00	CERAMIC 470PF 10% 50V
RV5	1-224-251-XX	VAR, METAL 4.7K	C49	1-123-612-00	ELECT 2.2 50V
			C50	1-102-106-00	CERAMIC 100PF 10% 50V
RV6	1-224-250-XX	VAR, METAL 2.2K	C51	1-108-251-00	MYLAR 0.1 10% 50V
RV101	1-224-249-XX	VAR, METAL 1K	C51	1-102-106-00	CERAMIC 100PF 10% 50V
RV102	1-224-249-XX	VAR, METAL 1K	C52	1-102-106-00	CERAMIC 100FF 10% 50V
		•	Cos	1-102-100-00	CENAMIC 100F1 10% 30V
			CEA	1 102 106 00	CERAMIC 100PF 10% 50V
		a t	C54	1-102-106-00	
T1	1-426-017-00	AF	C55	1-108-251-00	MYLAR 0.1 10% 50V
T2	1-426-066-00	RF	C56	1-102-106-00	CERAMIC 100PF 10% 50V
Т3	1-426-018-00	AF	C57	1-102-106-00	CERAMIC 100PF 10% 50V
T4	1-426-066-00	RF	C101	1-102-114-00	CERAMIC 470PF 10% 50V
T5	1-426-018-00	AF	C103	1-108-240-00	MYLAR 0.015 10% 50V
			C502	1-102-106-00	CERAMIC 100PF 10% 50V
			C503	1-102-106-00	CERAMIC 100PF 10% 50V
			C504	1-102-106-00	CERAMIC 100PF 10% 50V
NOTE:			C506	1-102-106-00	CERAMIC 100PF 10% 50V

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	, , , , , , , , , , , , , , , , , , , ,	. ,			, -
C510	1-102-106-00	CERAMIC 100PF 10% 50V	D26	8-719-911-19	188119
C511	1-102-106-00	CERAMIC 100PF 10% 50V	D27	8-719-911-19	188119
C512	1-102-106-00	CERAMIC 100PF 10% 50V	D28	8-719-911-19	188119
C514	1-102-106-00	CERAMIC 100PF 10% 50V	D29	8-719-191-07	RD9.1E-B
C517	1-102-106-00	CERAMIC 100PF 10% 50V	D30	8-719-911-19	188119
C519	1-102-106-00	CERAMIC 100PF 10% 50V	D31	8-719-911-19	188119
C521	1-102-106-00	CERAMIC 100PF 10% 50V	D32	8-719-911-19	188119
C523	1-102-106-00		D33	8-719-911-19	188119
C528	1-131-369-00	TANTALUM 4.7 20% 16V	D34	8-719-911-19	188119
C530	1-108-242-00	MYLAR 0.022 10% 50V	D35	8-719-911-19	188!19
0000	1 mgr				
C531	1-102-106-00	CERAMIC 100PF 10% 50V	D36	8-719-911-19	188119
C532	1-131-371-00	TANTALUM 10 20% 16V	D37	8-719-175-07	RD7.5E-B
C533	1-108-597-00	MYLAR 0.056 5% 50V	D38	8-719-911-19	188119
C534	1-102-106-00	CERAMIC 100PF 10% 50V	D39	8-719-911-19	188119
C539	1-131-369-00	TANTALUM 4.7 20% 16V	D40	8-719-911-19	188119
OE 44	1 100 242 00	MYLAR 0.022 10% 50V	D41	8-719-911-19	188119
C541	1-108-242-00 1-102-106-00		D42	8-719-151-07	RD5.1E-B
C542	1-131-371-00		D43	8-719-911-19	188119
C543			D43	8-719-911-19	188119
C544	1-108-597-00	MYLAR 0.056 5% 50V			1SS119
C545	1-102-106-00	CERAMIC 100PF 10% 50V	D45	8-719-911-19	199119
C550	1-108-355-00	MYLAR 0.0056 10% 50V	D46	8-719-911-19	188119
C551	1-108-355-00	MYLAR 0.0056 10% 50V	D47	8-719-911-19	188119
C552	1-131-402-00	TANTALUM 0.1 20% 16V	D48	8-719-911-19	188119
C557	1-108-251-00	MYLAR 0.1 10% 50V	D49	8-719-911-19	188119
C598	1-102-114-00	CERAMIC 470PF 10% 50V	D50	8-719-911-19	188119
D1	8-719-151-07	DDE 1E-R	DE4	0.710.011.10	100110
D1			D51	8-719-911-19	188119
D2	8-719-911-19	188119	D52	8-719-911-19	155119
D3	8-719-911-19	188119	D53	8-719-911-19	188119
D4	8-719-911-19	1SS119	D54	8-719-911-19	188119
D5	8-719-151-07	RD5.1E-B	D55	8-719-911-19	188119
D6	8-719-911-19	1SS119	D56	8-719-911-19	188119
D7	8-719-911-19	1SS119	D57	8-719-911-19	188119
D8	8-719-911-19	188119	D58	8-719-911-19	188119
D9	8-719-911-19	1SS119	D59	8-719-911-19	188119
D10	8-719-911-19	188119	D60	8-719-911-19	155119
•			. 200		,,,,,,,
D11	8-719-911-19	188119	D61	8-719-911-19	188119
D12	8-719-911-19	1SS119	D62	8-719-911-19	188119
D13	8-719-911-19	1SS119	D63	8-719-911-19	188119
D14	8-719-911-19	188119	D64	8-719-911-19	188119
D15	8-719-911-19	188119	D65	8-719-911-19	1SS119
D16	8-719-911-19	1SS119	D66	8-719-911-19	188119
D17	8-719-911-19	1SS119	D67	8-719-911-19	188119
D18	8-719-911-19	188119	D68	8-719-911-19	188119
D19	8-719-911-19	188119	D69	8-719-911-19	188119
D20	8-719-911-19	188119	D70	8-719-911-19	188119
	2 : 12 2 : 10		5,0		
D21	8-719-911-19	1SS119	D71	8-719-911-19	188119
D22	8-719-911-19	1SS119	D72	8-719-911-19	188119
D23	8-719-911-19	188119	D73	8-719-911-19	188119
D24	8-719-911-19	188119	D74	8-719-911-19	188119
D25	8-719-911-19	1SS119	D75	8-719-911-19	188119
NOTE:				e printed in Rol e	1 F
			annaga y Dart i	PERMITTAN IN MANA	1. 2200 TV/PA 3

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Replace only with same components as specified.

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
D501	8-719-911-19	1SS119	IC6	8-759-240-30	TC4030BP (CD4030BE; RCA)
D501 D502	8-719-911-19	1SS119 1SS119	IC7	8-759-240-11	TC4011BP (CD4011BE; RCA)
D502 D503	8-719-911-19	1SS119	IC8	8-759-618-41	M51841P (NE555N; SIGNETICS)
D503 D504	8-719-911-19	1SS119	IC9	8-759-618-41	M51841P (NE555N; SIGNETICS)
D504 D505	8-719-104-10	1SS99	IC10	8-759-045-38	MC14538BCP (MOTOROLA)
טפט	0-719-104-10	13333	1010	0 700 040 00	(110 110 00 00 1110 110 110 110 110 110
D507	8-719-104-10	1SS99	IC11	8-759-132-40	μPC324C (LM324; NSC)
D509	8-719-911-19	1SS119	IC12	8-759-618-41	M51841P (NE555N; SIGNETICS)
D510	8-719-911-19	1SS119	IC13	8-759-132-40	μPC324C (LM324; NSC)
D511	8-719-911-19	1SS119	IC14	8-759-240-01	TC4001BP (CD4001BE; RCA)
D512	8-719-911-19	1SS119	IC15	8-759-240-11	TC4011BP (CD4011BE; RCA)
D513	8-719-911-19	1SS119	IC16	8-759-240-66	TC4066BP (CD4066BE; RCA)
D514	8-719-911-19	1SS119	IC17	8-759-132-40	μPC324C (LM324; NSC)
D515	8-719-911-19	1SS119	IC18	8-759-240-66	TC4066BP (CD4066BE; RCA)
D516	8-719-911-19	1SS119	IC19	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D517	8-719-911-19	1SS119	IC20	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D519	8-719-911-19	188119	IC21	8-759-240-11	TC4011BP (CD4011BE; RCA)
D520	8-719-911-19	1SS119	IC22	8-759-240-66	TC4066BP (CD4066BE; RCA)
D521	8-719-911-19	188119	IC23	8-759-645-17	M54517P (MITSUBISHI)
D522	8-719-911-19	188119	IC24	8-759-241-61	TC40161BP (CD40161BE; RCA)
D523	8-719-911-19	1SS119	IC25	8-759-240-99	TC4099BP (CD4099BE; RCA)
D524	8-719-911-19	1SS119	IC26	8-759-240-99	TC4099BP (CD4099BE; RCA)
D525	8-719-911-19	1SS119	IC27	8-759-240-01	TC4001BP (CD4001BE; RCA)
D526	8-719-911-19	1SS119	1C28	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D527	8-719-911-19	1SS119	IC29	8-759-240-01	TC4001BP (CD4001BE; RCA)
D528	8-719-911-19	1\$\$119 	IC30	8-759-240-01	TC4001BP (CD4001BE; RCA)
			IC31	8-759-240-01	TC4001BP (CD4001BE; RCA)
D529	8-719-911-19	1SS119	IC31	8-759-240-11	TC4011BP (CD4011BE; RCA)
D530	8-719-911-19	1SS119	IC32	8-759-240-01	TC4001BP (CD4001BE; RCA)
D531	8-719-911-19	1SS119	IC34	8-759-240-01	TC4001BP (CD4001BE; RCA)
D532	8-719-911-19	1SS119	IC35	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D533	8-719-911-19	1SS119	1033	0-733-2-0-03	10400001 (00400002; 110A)
D534	8-719-911-19	1SS119	IC36	8-759-240-11	TC4011BP (CD4011BE; RCA)
D535	8-719-911-19	1SS119	IC37	8-759-240-01	TC4001BP (CD4001BE; RCA)
D536	8-719-911-19	1SS119	IC38	8-759-240-11	TC4011BP (CD4011BE; RCA)
D537	8-719-911-19	1SS119	IC39	8-759-240-01	TC4001BP (CD4001BE; RCA)
D538	8-719-911-19	1SS119	IC40	8-759-240-01	TC4001BP (CD4001BE; RCA)
D539	8-719-911-19	188119	IC41	8-759-250-67	TC5067BP (TOSHIBA)
D540	8-719-911-19	1SS119	IC42	8-759-645-19	M54519P (MITSUBISHI)
D541	8-719-911-19	1SS119	IC43	8-759-250-67	TC5067BP (TOSHIBA)
D542	8-719-911-19	1SS119	1C44	8-759-645-19	M54519P (MITSUBISHI)
D543	8-719-911-19	1SS119	IC45	8-759-132-40	μPC324C (LM324; NSC)
					20040 (111004 1100)
D544	8-719-911-19	1SS119	IC46	8-759-132-40	μPC324C (LM324; NSC)
D546	8-719-911-19	188119	IC47	8-759-145-58	μPC4558C (RC4558; RAYTHEON)
D547	8-719-911-19	1SS119	IC48	8-759-240-01	TC4001BP (CD4001BE; RCA)
D548	8-719-911-19	1SS119	IC49	8-759-240-11	TC4011BP (CD4011BE; RCA)
D549	8-719-911-19	1SS119	IC50	8-759-240-01	TC4001BP (CD4001BE; RCA) MC14538BCP (MOTOROLA)
IC1	8-759-729-03	NJM2903D (JRC)	IC51	8-759-045-38 8-759-132-40	μPC324C (LM324; NSC)
IC2	8-759-729-03	NJM2903D (JRC)	IC501 IC502	8-759-132-40 8-759-132-40	μPC324C (LM324; NSC) μPC324C (LM324; NSC)
IC3	8-759-240-30	TC4030BP (CE4030BE; RCA)	IC502 IC503	8-759-132-40 8-759-245-16	TC4516BP (MC14516BCP; MOT)
IC4	8-759-240-30	TC4030BP (CD4030BE; RCA)	IC503	8-759-245-16	TC4516BP (MC14516BCP; MOT)
IC5	8-759-240-13	TC4013BP (CD4013BE; RCA)	1C504 1C505	8-759-132-40	μPC324C (LM324; NSC)
	2.22.240.10		10000	0-7 33-132-40	μι Ουετο (Ειποεή, 1900)

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
IC506	8-759-132-40	μPC324C (LM324; NSC)	Q6	8-729-201-04	2SC2878
IC507	8-759-245-16	TC4516BP (MC14516BCP; MOT)	Q7	8-729-201-04	2SC2878
1C508	8-759-245-16	TC4516BP (MC14516BCP; MOT)	Q8	8-729-201-04	2SC2878
IC500	8-759-240-11	TC4011BP (CD4011BE; RCA)	Q9	8-729-201-04	2SC2878
	8-759-240-11	TC4011BP (CD4011BE; RCA)	Q10	8-729-663-47	2SC1364
IC510	8-759-240-11	1C4011BF (CD4011BE, RCA)	410	0,20000 17	
IC511	8-759-240-01	TC4001BP (CD4001BE; RCA)	Q11	8-729-201-04	2SC2878
IC512	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	Q12	8-729-201-04	2SC2878
IC513	8-759-240-66	TC4066BP (CD4066BE; RCA)	Q13	8-729-201-04	2SC2878
IC514	8-759-240-66	TC4066BP (CD4066BE; RCA)	Q14	8-729-201-04	2SC2878
IC515	8-759-132-40	μPC324C (LM324; NSC)	Q15	8-729-201-04	2SC2878
10010	0,00 .01 .0	<u> </u>			
IC516	8-759-240-66	TC4066BP (CD4066BE; RCA)	Q16	8-729-201-04	2SC2878
IC517	8-759-132-40	μPC324C (LM324; NSC)	Q17	8-729-663-47	2SC1364
IC518	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	Q18	8-729-201-04	2SC2878
IC519	8-759-132-40	-μPC324C (LM324; NSC)	Q19	8-729-663-47	2SC1364
IC520	8-759-132-40	μPC324C (LM324; NSC)	Q20	8-729-663-47	2SC1364
IC521	8-759-240-66	TC4066BP (CD4066BE; RCA)	Q501	8-729-201-04	2SC2878
IC522	8-759-240-66	TC4066BP (CD4066BE; RCA)	Ω502	8-792-201-04	2SC2878
IC523	8-759-132-40	μPC324C (LM324; NSC)	Q503	8-729-201-04	2SC2878
IC524	8-759-240-66	TC4066BP (CD4066BE; RCA)	Q504	8-729-201-04	2SC2878
IC525	8-759-240-66	TC4066BP (CD4066BE; RCA)	Q507	8-729-663-47	2SC1364
LOEGE	8-759-240-01	TC4001BP (CD4001BE; RCA)			
IC526		TC4011BP (CD4011BE; RCA)			
IC527	8-759-240-11	MC14538BCP (MOTOROLA)	R15	1-214-166-00	METAL 27K 1% 1/4W
IC528	8-759-045-38		R42	1-214-166-00	METAL 27K 1% 1/4W
IC529	8-759-132-40	μPC324C (LM324; NSC)	R64	1-214-174-00	METAL 56K 1% 1/4W
IC530	8-759-240-01	TC4001BP (CD4001BE; RCA)	R69	1-212-650-00	METAL 330K 1% 1/2W
IC531	8-759-240-66	TC4066BP (CD4066BE; RCA)	R70	1-214-173-00	METAL 51K 1% 1/4W
ICESS		TC4066BP (CD4066BE; RCA)	1170	1-214 175 00	METAL DIK 170 17-400
IC532	8-759-240-66	TC4011BP (CD4011BE; RCA)	R75	1-214-158-00	METAL 12K 1% 1/4W
IC533	8-759-240-11		R76	1-214-173-00	METAL 51K 1% 1/4W
IC534	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	R80	1-214-169-00	METAL 36K 1% 1/4W
IC535	8-759-240-01	TC4001BP (CD4001BE; RCA)	R81	1-214-179-00	METAL 91K 1% 1/4W
IC536	8-759-045-38	MC14538BCP (MOTOROLA)	R82	1-214-173-00	METAL 51K 1% 1/4W
IC537	8-759-240-01	TC4001BP (CD4001BE; RCA)	NO2	1-214-175-00	METAE 3110 1740
IC537	8-759-240-01	TC4001BP (CD4001BE; RCA)	R83	1-214-156-00	METAL 10K 1% 1/4W
	8-759-240-01	TC4001BP (CD4001BE; RCA)	R84	1-214-177-00	METAL 75K 1% 1/4W
IC539			R87	1-214-961-00	METAL 750K 1% 1/2W
IC540	8-759-240-01	TC4001BP (CD4001BE; RCA)	R88	1-214-177-00	METAL 75K 1% 1/4W
IC541	8-759-132-40	μPC324C (LM324; NSC)	R89	1-214-177-00	METAL 75K 1% 1/4W
IC542	8-759-240-11	TC4011BP (CD4011BE; RCA)		1 = 1 111, 30	
IC543	8-759-240-01	TC4001BP (CD4001BE; RCA)	R90	1-214-961-00	METAL 750K 1% 1/2W
1C544	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	R97	1-214-149-00	METAL 5.1K 1% 1/4W
IC545	8-759-240-11	TC4011BP (CD4011BE; RCA)	R98	1-214-149-00	METAL 5.1K 1% 1/4W
IC546	8-759-240-78	TC4078BP (CD4078BE; RCA)	R159	1-214-156-00	METAL 10K 1% 1/4W
10340	0-755-240-70	10407051 (05407052, 11077	R160	1-214-156-00	METAL 10K 1% 1/4W
			•		
	0.700.004.04	20222			
Q1	8-729-201-04	2SC2878			
02	8-729-663-47	2SC1364			· · · · · · · · · · · · · · · · · · ·
Q3	8-729-663-47	2SC1364			
Q4	8-729-663-47	2SC1364			
Q5	8-729-201-04	2SC2878			

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Safety.</sup>

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
R179	1-214-175-00	METAL 62K 1% 1/4W	R634	1-214-180-00	METAL 100K 1% 1/4W
R180	1-214-156-00	METAL 10K 1% 1/4W	R636	1-214-961-00	METAL 750K 1% 1/2W
R181	1-214-175-00	METAL 62K 1% 1/4W	R653	1-212-712-00	METAL 270K 1% 1/2W
R182	1-214-156-00	METAL 10K 1% 1/4W	R654	1-214-180-00	METAL 100K 1% 1/4W
		and the second s	R655	1-214-158-00	METAL 12K 1% 1/4W
R187	1-214-156-00	METAL 10K 1% 1/4W	11055	1-214-158-00	WILLIAE 12K 1/6 1/444
R188	1-214-156-00	METAL 10K 1% 1/4W	R663	1-214-180-00	METAL 100K 1% 1/4W
R207	1-214-175-00	METAL 62K 1% 1/4W	R665	1-214-961-00	METAL 750K 1% 1/2W
R208	1-214-156-00	METAL 10K 1% 1/4W	R705	1-214-156-00	METAL 10K 1% 1/4W
R209	1-214-175-00	METAL 62K 1% 1/4W	R707	1-214-156-00	METAL 10K 1% 1/4W
R210	1-214-156-00	METAL 10K 1% 1/4W	R708	1-214-165-00	METAL 24K 1% 1/4W
			R709	1-214-158-00	METAL 12K 1% 1/4W
R222	1-212-526-00	METAL 510 1% 1/2W			
R223	1-212-526-00	METAL 510 1% 1/2W			
R270	1-214-162-00	METAL 18K 1/4W			
R271	1-214-163-00	METAL 20K 1/4W	RV1		VAR, METAL 22K
R272	1-214-971-00	METAL 2M 1/4W	RV2	1-224-253-XX	VAR,METAL 22K
			RV501	1-224-251-XX	VAR, METAL 4.7K
R509	1-214-148-00	METAL 4.7K 1% 1/4W	RV502	1-224-252-XX	VAR, METAL 10K
R510	1-214-152-00	METAL 6.8K 1% 1/4W	RV503	1-224-251-XX	VAR, METAL 4.7K
R511	1-214-180-00	METAL 100K 1% 1/4W	 RV504	1-224-252-XX	VAR, METAL 10K
		e awaye ili yereki.			
R512	1-214-180-00	A SECTION AND ADDRESS OF THE PROPERTY OF THE P			
R513	1-212-708-00	METAL 180K 1% 1/2W			
R514	1-212-708-00	36、 克里斯多名的特别 1985年 - 1			
R515	1-214-142-00				
R517	1-214-162-00	METAL 18K 1% 1/4W			
5546	4 044 400 00	क्षा होते हैं। असे क्षेत्रक के किस के कि			
R518	1-214-168-00	METAL 33K 1% 1/4W			
R520	1-214-180-00	METAL 100K 1% 1/4W	SA-9 BOA	P.D.	
R528	1-214-180-00	The state of the s	SA-9 BOA	n o	
R547	1-214-148-00	2 (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4		1 604 277 00	PRINTED CIRCUIT BOARD
R548	1-214-152-00	METAL 6.8K 1% 1/4W		1-604-377-00	PRINTED CIRCUIT BOARD, SA-9
R549	1-214-180-00	METAL 100K 1% 1/4W			
R550	1-214-180-00	METAL 100K 1% 1/4W			e e e e e e e e e e e e e e e e e e e
R551	1-212-708-00	METAL 180K 1% 1/2W			
R552	1-212-708-00	METAL 180K 1% 1/2W	S1	1-516-783-XX	SLIDE "LEVEL (A2)"
R553		METAL 2.7K 1% 1/4W	S2	1-516-777-XX	
noos	1-214-142-00	WEIAL 2.7K 1% 1/4VV	S3	1-516-783-XX	
DEFE	4 044 400 00	BACTAL ADM 40/ 4/4101	 S4	1-516-777-XX	
R555	1-214-162-00	METAL 18K 1% 1/4W	S5	1-516-777-XX	
R556	1-214-168-00	METAL 33K 1% 1/4W	55	1-310-777-AA	SEIDE FRANING SERVO
R558	1-214-180-00	METAL 100K 1% 1/4W	S6	1 E16 777 VV	SLIDE "SERVO LOCK"
R566	1-214-180-00		S7		SLIDE "75 OHM (V)"
R587	1-214-152-00	METAL 6.8K 1% 1/4W	3/	1-516-777-88	SLIDE /5 OHW (V)
R589	1-212-707-00	METAL 150K 1% 1/2W			
R603	1-214-152-00	METAL 6.8K 1% 1/4W			
R605	1-212-707-00	METAL 150K 1% 1/2W		•	•
R620	1-212-715-00	METAL 360K 1% 1/2W			
R621	1-214-166-00	METAL 27K 1% 1/4W			
R622	1-212-715-00	METAL 360K 1% 1/2W			
R623	1-214-166-00	METAL 27K 1% 1/4W			
R624	1-212-712-00	METAL 270K 1% 1/2W			
R625	1-214-180-00	METAL 100K 1% 1/4W			
R626	1-214-158-00	METAL 12K 1% 1/4W			
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BVU-800P/800S

The shaded and /\(\hat{\chi}\)-marked components are critical to

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NOTE:

1.

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Orders for parts not shown in Bold-Face type will be

SR-14, SV-24A/SV-52 (CF-9)

Ref. No. Parts No. Description	Ref. No.	Parts No.	Description
7.44.DOA.DD	C40	1-108-227-00	MYLAR 0.001 10% 50V
R-14 BOARD		and the second s	MYLAR 0.047 10% 50V
PRINTED OF THE PRINTED OF THE PRINTED OF THE	C41	1-108-246-00	MYLAR 0.012 5% 50V
1-604-063-00 PRINTED CIRCUIT BOARD, SR-14	C42	1-108-581-00	MYLAR 0.01 10% 50V
	C44	1-108-239-00	TANTALUM 0.47 10% 35V
SV-24A/SV-52 BOARD	C45	1-131-345-00	TANTALUM 0.47 10% 35V
A STATE OF THE PROPERTY OF THE			
A-6715-128-A MOUNTED CIRCUIT BOARD	C46	1-108-595-00	MYLAR 0.047 5% 50V
SV-24A (WITH CF-9)	C47	1-108-246-00	MYLAR 0.047 10% 50V
S/N. Up to 11490 (PAL)	C48	1-108-239-00	MYLAR 0.01 10% 50V
S/N. Up to 10080 (SECAM) /	C49	1-108-239-00	MYLAR 0.01 10% 50V
	C50	1-131-408-00	TANTALUM 1 10% 25V
		and in the second	
A-6715-128-B MOUNTED CIRCUIT BOARD	C51	1-131-371-00	TANTALUM 10 10% 16V
SV-52 (WITH CF-9)	C52	1-108-249-00	MYLAR 0.068 10% 50V
S/N. 11491 to 12185 (PAL)	C53	1-108-251-00	MYLAR 0.1 10% 50V
S/N. 10081 to 10185 (SECAM)	C54	1-108-230-00	MYLAR 0.0022 10% 50V
	C55	1-131-408-00	TANTALUM 1 10% 25V
			a monda a garage para para da La
A-6715-128-C MOUNTED CIRCUIT BOARD	C56	1-131-371-00	TANTALUM 10 10% 16V
SV-52 (WITH CF-9)	C57	1-108-230-00	MYLAR 0.0022 10% 50V
/ S/N. 12186 and higher (PAL)	C58	1-108-239-00	MYLAR 0.01 10% 50V
S/N. 10186 and higher (SECAM)	C59	1-108-244-00	MYLAR 0.033 10% 50V
	C61	1-108-242-00	MYLAR 0.022 10% 50V
1-555-697-00 WIRE ASS'Y, FLAT 50P (25mm)		AND 31 18 18	Maria (NA) (AM) (AM) (MA) (AM)
1-564-392-00 HEADER, 50P (ON THE CF-9)	C62	1-131-370-00	TANTALUM 6.8 10% 16V
	C64	1-108-237-00	MYLAR 0.0068 10% 50V
	C65	1-131-380-00	TANTALUM 33 10% 10V
	C66	1-108-249-00	MYLAR 0.068 10% 50V
C10 1-108-234-00 MYLAR 0.0047 10% 50V	C67	1-108-228-00	MYLAR 0.0015 10% 50V
	007		有于"多女子"静脉,一直在1000年1200年1200年
	C68	1-108-246-00	MYLAR 0.047 10% 50V
5 CO	C69	1-108-242-00	MYLAR 0.022 10% 50V
	C70	1-108-251-00	MYLAR 0.1 10% 50V
C17 1-131-345-00 TANTALUM 0.47 10% 25V	C70	1-108-242-00	MYLAR 0.022 10% 50V
C18 1-131-345-00 TANTALUM 0.47 10% 25V		1-102-114-00	CERAMIC 470PF B 10% 50V
- 1-	C73	1-102-114-00	
			CERAMIC 47PF SL 5% 50V
C20 1-108-246-00 MYLAR 0.047 10% 50V	C103	1-161-267-00	CERAMIC 47PF SL 5% 50V
	C104	1-161-267-00	CERAMIC 4/PF SL 5% 50V
C22 1-108-239-00 MYLAR 0.01 10% 50V	C105	1-108-249-00	MYLAR 0.068 10% 50V
0.004T 400/ FOV	C106	1-108-249-00	MYLAR 0.068 10% 50V
C23 1-108-234-00 MYLAR 0.0047 10% 50V	C107	1-108-227-00	MYLAR 0.001 10% 50V
C24 1-108-246-00 MYLAR 0.047 10% 50V			
C25 1-108-251-00 MYLAR 0.1 10% 50V	C108	1-102-106-00	CERAMIC 100PF B 10% 50V
C26 1-108-244-00 MYLAR 0.033 10% 50V	C111	1-108-244-00	MYLAR 0.033 10% 50V
C27 1-108-246-00 MYLAR 0.047 10% 50V	C112	1-131-498-00	TANTALUM 1 10% 25V
	C113	1-131-361-00	TANTALUM 2.2 10% 20V
C28 1-131-408-00 TANTALUM 10% 25V	C501	1-102-114-00	CERAMIC 470PF B 10% 50V
C31 1-161-342-00 CERAMIC 43PF SL 5% 50V			
C32 1-108-230-00 MYLAR 0.0022 10% 50V	C502	1-102-110-00	CERAMIC 220PF B 10% 50V
C33 1-108-246-00 MYLAR 0.047 10% 50V	C502	1-102-110-00	CERAMIC 220PF B 10% 50V
C34 (1-108-239-00 MYLAR 0.01 10% 50V	C504	1-102-114-00	CERAMIC 470PF B 10% 50V
1-108-355-00 MYLAR 0.0056	C504	1-102-114-00	CERAMIC 470PF B 10% 50V
C35 1-130-224-00 POLYPROPYLENE 0.015 5% 50V		1-102-114-00	CERAMIC 470PF B 10% 50V
	C506	1-102-114-00	CENTAINS TO I S 1070 COV
	0503	4 400 444 00	CERAMIC 470PF B 10% 50V
	C507	1-102-114-00	
	C508	1-102-114-00	400/ 501/
1-108-571-00 MYLAR 0.0047 5% 50V			
\(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\)	C509	1-102-114-00	
1-108-571-00 MYLAR 0.0047 5% 50V	C509 C510 C511	1-102-114-00 1-102-114-00 1-102-114-00	CERAMIC 470PF B 10% 50V

replacement purposes. The remaining parts shown in this manual are not normally required for routine service work.

Orders for parts not shown in Bold-Face type will be

processed, but allow for additional delivery time.

The shaded and A-marked components are critical to

BVU-800P/800S

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
C512	1-102-114-00	CERAMIC 470PF B 10% 50V	. D2	8-719-815-55	181555
C513	1-131-369-00	TANTALUM 4.7 10% 16V	D3	8-719-815-55	1S1555
C515	1-102-114-00	CERAMIC 470PF B 10% 50V	D4	8-719-815-55	1S1555
C516	1-102-114-00	CERAMIC 470PF B 10% 50V	D5	8-719-815-55	1S1555
C518	1-102-114-00	CERAMIC 470PF B 10% 50V	D6	8-719-815-55	181555
0540	4 400 555 00	14VI 4 D 0 004 5V 50V			
C519	1-108-555-00	MYLAR 0.001 5% 50V	D7	8-719-815-55	181555
C520	1-108-555-00	MYLAR 0.001 5% 50V	D8	8-719-815-55	1S1555
C521	1-108-603-00	MYLAR 0.1 5% 50V	D9	8-719-815-55	1S1555
C522	1-102-114-00	CERAMIC 470PF B 10% 50V	D10	8-719-151-07	RD5.1E-B
C523	1-102-114-00	CERAMIC 470PF B 10% 50V	D11	8-719-815-55	181555
C524	1-108-579-00	MYLAR 0.01 5% 50V	D13	8-719-815-55	181555
C538	1-131-371-00	TANTALUM 10 10% 16V			and the second
C544	1-108-595-00	MYLAR 0.047 5% 50V	D14	8-719-815-55	1S1555
C701	1-108-603-00	MYLAR 0.1 5% 50V	D15	8-719-719-25	1S1925-P
C701	1-102-114-00	CERAMIC 470PF B 10% 50V	D16	8-719-815-55	1S1555
C/02	1-102-114-00 1 9	SARANIC 470FF B 10% 50V	D17	8-719-815-55	1S1555
C703	1-131-361-00	TANTALUM 2.2 10% 20V	D18	8-719-815-55	1\$1555
C704	1-108-597-00	MYLAR 0,056 5% 50V	D19	8-719-815-55	1S1555
C705	1-131-341-00	TANTALUM 0.1 10% 25V	D20	8-719-815-55	181555
C706	1-108-555-00	MYLAR 0.001 5% 50V	D21	8-719-815-55	181555
C707	1-131-341-00	TANTALUM 0.1 10% 25V	D21	8-719-815-55	181555
	si gan metanggi		DZZ	6-7 19-6 15-55	13 1999
C708	1-131-341-00	TANTALUM 0.1 10% 25V	D23	8-719-815-55	181555
C709	1-102-110-00	CERAMIC 220PF B 10% 50V	D24	8-719-815-55	181555
C710	1-131-341-00	TANTALUM 0.1 10% 25V	D25	8-719-815-55	1S1555
C711	1-108-555-00	MYLAR 0,001 5% 50V	D26	8-719-815-55	1S1555
C712	1-131-341-00	TANTALUM 0.1 10% 25V	D30	8-719-815-55	1S1555
	STATE OF STATE	· 我是,我放了。 - 1700年4月 - 1800年		994 - 1975 A	그 교육 전 변화
C713	1-131-341-00	TANTALUM 0.1 10% 25V	D31	8-719-815-55	1S1555
C714	1-108-587-00	MYLAR 0.022 5% 50V	D32	8-719-815-55	1S1555
C715	1-108-603-00	MYLAR 0.1 5% 50V	D33	8-719-815-55	1S1555
C716	1-102-114-00	CERAMIC 470PF B 10% 50V	D36	8-719-815-55	1S1555
C718	1-108-597-00	MYLAR 0.056 5% 50V	D37	8-719-815-55	1\$1555
	4.400 505 00			and the second of the second of	**************************************
C719	1-108-587-00		D38	8-719-815-55	1S1555
C720	1-102-114-00	CERAMIC 470PF B 10% 50V	D39	8-719-815-55	1S1555
C721	1-102-114-00	CERAMIC 470PF B 10% 50V	D40	8-719-815-55	181555
C722	1-102-114-00	CERAMIC 470PF B 10% 50V	D41	8-719-815-55	181555
C723	1-131-368-00	TANTALUM 3.3 10% 16V	D42	8-719-815-55	181555
C724	1-108-579-00	MYLAR 0.01 5% 50V	D43	8-719-815-55	1S1555
C725	1-131-361-00	TANTALUM 2.2 10% 16V	D44	8-719-815-55	181555
C726	1-131-361-00	TANTALUM 2,2 10% 16V	D45	and the second of the second	4.4
C727	1-131-361-00	TANTALUM 2,2 10% 16V	D45 D46	8-719-119-92 8-719-815-55	1S1992 1S1555
0,2,	. 10. 00. 00	17.117.12.011 2,11 10/0 101			
			D47	8-719-815-55	181555
			D48	8-719-815-55	1S1555
CP1	1-527-832-00	OSC 4.43MHz	D49	8-719-815-55	181555
			D50	8-719-815-55	181555
			D51	8-719-815-55	181555
	•		D52	8-719-815-55	181555
			•	· -	

 The shaded and Amarked components are critical to safety.
 Replace only with same components as specified.

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
D53	8-719-911-19	1\$\$119	IC31	8-759-045-38	MC14538BCP (MOTOROLA)
D55	8-719-911-19	1SS119 1SS119	IC32	8-759-045-38	MC14538BCP (MOTOROLA)
D56	8-719-911-19	1SS119	IC33	8-759-045-38	MC14538BCP (MOTOROLA)
D57	8-719-911-19	1SS119	IC34	8-759-240-01	TC4001BP (CD4001BE; RCA)
D57	8-719-911-19	1SS119	IC100	1-464-259-00	CORRECTION UNIT SWITCHING
D36	0-715-511-15	133113			and higher (PAL)
D60	8-719-911-19	155119		1	and higher (SECAM)
D501	8-719-815-55	1S1555		-,	en e
D502	8-719-815-55	1\$1555	IC501	8-759-240-30	TC4030BP (CD4030BE; RCA)
D504	8-719-815-55	1\$1555			
D505	8-719-815-55	1\$1555	IC502	8-759-240-11	TC4011BP (CD4011BE; RCA)
			IC503	8-759-240-01	TC4001BP (CD4001BE; RCA)
D506	8-719-815-55	1S1555	IC504	8-759-240-13	TC4013BP (CD4013BE; RCA)
D507	8-719-815-55	1\$1555	IC505	8-759-240-27	TC4027BP (CD4027BE; RCA)
D701	8-719-815-55	1\$1555	IC506	8-759-240-01	TC4001BP (CD4001BE; RCA)
D702	8-719-815-55	1S1555		4 × 40 ×	The applying the second training
D. 02	• .		IC507	8-759-245-10	TC4510BP (MC14510BCP; MOT)
			IC508	8-759-240-81	TC4081BP (CD4081BE; RCA)
IC1	8-759-145-58	μPC4558C (RC4558; RAYTHEON)	IC510	8-759-045-38	MC14538BCP (MOTOROLA)
IC2	8-759-729-03	NJM2903D (JRC)	IC511	8-759-240-01	TC4001BP (CD4001BE; RCA)
IC3	8-759-145-58	μPC4558C (RC4558; RAYTHEON)	IC512	8-759-240-53	TC4053BP (CD4053BE; RCA)
IC4	8-759-132-40	μPC324C (LM324; NSC)		345 V 5	. a.c. (4) . April 1889 y
IC5	8-751-940-01	CX-194A (SONY)	IC513	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
		O 11985 (PAL) \	IC514	8-759-240-11	TC4011BP (CD4011BE; RCA)
		O 10185 (SECAM)	IC515	8-759-240-53	TC4053BP (CD4053BE; RCA)
1C5	8-751-941-04	CX-194B-4	IC516	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
		6 and higher (PAL)	IC517	8-759-240-01	TC4001BP (CD4001BE; RCA)
	1	6 and higher (SECAM)		*92	e en examina destinada
	,,		IC518	8-759-045-38	MC14538BCP (MOTOROLA)
IC6	8-759-132-40	μPC324C (LM324; NSC)	IC519	8-759-240-11	TC4011BP (CD4011BE; RCA)
IC7	8-759-131-11	μPC311C (NEC)	IC520	8-759-240-66	TC4066BP (CD4066BE; RCA)
IC8	8-759-132-40	μPC324C (LM324; NSC)	IC521	8-759-045-84	MC14584BCP (MOTOROLA)
IC9	8-759-131-11	μPC311C (NEC)	IC522	8-759-745-50	NJM4558D-D (JRC)
IC10	8-759-645-17	M54517P (MITSUBISHI)			
			IC523	8-749-939-14	BX-3914 (SONY)
IC11	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	IC524	8-759-240-11	TC4011BP (CD4011BE; RCA)
IC12	8-759-045-38	MC14538BCP (MOTOROLA)	IC525	8-759-245-10	TC4510BP (MC14510BCP; MOT)
IC13	8-759-145-58	μPC4558C (RC4558; RAYTHEON)	IC526	8-759-145-58	μPC4558C (RC4558; RAYTHEON)
IC14	8-759-240-99	TC4099BP (CD4099BE; RCA)	IC701	8-759-990-82	TL082CP (TI)
IC15	8-759-241-61	TC40161BP (CD40161BE; RCA)		-	
1010			IC702	8-759-990-82	TL082CP (T1)
IC16	8-759-240-53	TC4053BP (CD4053BE; RCA)	IC703	8-759-240-81	TC4081BP (CD4081BE; RCA)
IC17	8-759-240-52	TC4052BP (CD4052BE; RCA)	IC704	8-759-240-13	TC4013BP (CD4013BE; RCA)
IC18	8-759-240-99	TC4099BP (CD4099BE; RCA)	IC705	8-759-345-38	HD14538BP (HITACHI)
IC19	8-759-240-11	TC4011BP (CD4011BE; RCA)	IC706	8-759-240-13	TC4013BP (CD4013BE; RCA)
IC20	8-759-240-23	TC4023BP (CD4023BE; RCA)			
1020	0.100 2.10 2.5		IC707	8-759-240-13	TC4013BP (CD4013BE; RCA)
1021	8-759-240-01	TC4001BP (CD4001BE; RCA)	IC708	8-759-240-13	TC4013BP (CD4013BE; RCA)
IC21			IC709	8-759-240-13	TC4013BP (CD4013BE; RCA)
IC22	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	IC710	8-759-345-38	HD14538BP (HITACHI)
IC23	8-759-240-30	TC4030BP (CD4030BE; RCA)	IC711	8-759-240-81	TC4081BP (CD4081BE; RCA)
IC24	8-759-240-11	TC4011BP (CD4011BE; RCA)			
IC25	8-759-240-13	TC4013BP (CD4013BE; RCA)			
1000	0.750.040.04	TO4004DD (OD4004DE DOA)			
IC26	8-759-240-01	TC4001BP (CD4001BE; RCA)		•	
IC27	8-759-240-69	TC4069UBP (CD4069UBE; RCA)			
IC28	8-759-045-38	MC14538BCP (MOTOROLA)			
IC29	8-759-240-53	TC4053BP (CD4053BE; RCA)		r	
IC30	8-759-240-11	TC4011BP (CD4011BE; RCA)			
NOTE:		•			

The shaded and Amarked components are critical to safety.
 Replace only with same components as specified.

^{2.} Parts printed in Bold-Face type are normally stocked for replacement purposes. The remaining parts shown in this manual are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
					0000070
IC712	8-759-240-30	TC4030BP (CD4030BE; RCA)	Q.29	8-729-201-04	2SC2878
IC713	8-759-240-71	TC4071BP (CD4071BE; RCA)	Q30	8-729-663-47	2SC1364
IC714	8-759-345-38	HD14538BP (HITACHI)	Q31	8-729-201-04	2SC2878
IC715	8-759-240-15	TC4015BP (CD4015BE; RCA)	Q32	8-279-201-04	2SC2878
IC716	8-759-345-38	HD14538BP (HITACHI)	Q33	8-729-663-47	2SC1364
IC717	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	Q34	8-729-663-47	2SC1364
IC718	8-759-240-15	TC4015BP (CD4015BE; RCA)	Q501	8-729-663-47	2SC1364
IC719	8-759-345-38	HD14538BP (HITACHI)	Q502	8-729-663-47	2SC1364
IC719	8-759-240-73	TC4073BP (CD4073BE; RCA)	Q503	8-729-663-47	2SC1364
	8-759-345-38	HD14538BP (HITACHI)	Q504	8-729-663-47	2SC1364
IC721	0-703-340-30	HD (4030bi (H) (AOM)		8089 5	Que Marie de la Reco
10700	0.750.240.01	TC4001BP (CD4001BE; RCA)	Q505	8-729-663-47	2SC1364
IC722	8-759-240-01	그는 그는 그는 그 그들은 이 사람들이 되었다. 그는	Q506	8-729-663-47	2SC1364
IC723	8-759-240-13	TC4013BP (CD4013BE; RCA)	Q507	8-729-663-47	2SC1364
IC724	8-759-345-38	HD14538BP (HITACHI)	Q508	8-729-663-47	2SC1364
IC725	8-759-240-13	TC4013BP (CD4013BE; RCA)	Q509	8-729-602-67	2SA 1026
IC726	8-759-240-73	TC4073BP (CD4073BE; RCA)	ตอกล	6-729-002-07	- 25A 1020
			Q510	8-729-663-47	
IC727	8-759-240-71	TC4071BP (CD4071BE; RCA)	Q510	8-729-663-47	2SC1364
IC728	8-759-240-81	TC4081BP (CD4081BE; RCA)			2SC1364
IC729	8-759-240-13	TC4013BP (CD4013BE; RCA)	Q701	8-729-663-47	2SC1364
IC730	8-759-240-13	TC4013BP (CD4013BE; RCA)	Q702	8-729-663-47	
IC731	8-759-240-11	TC4011BP (CD4011BE; RCA)	Q703	8-729-663-47	2SC1364
					0004004
Q3	8-769-053-47	2SC1364	Q704	8-729-663-47	2SC1364
Q4	8-769-053-47	2SC1364	Q705	8-729-663-47	2SC1364
Q5	8-729-384-48	2SA844	Q706	8-729-663-47	2SC1364
Q6	8-729-663-47	2SC1364	Q707	8-729-663-47	2SC1364
Ω8	8-729-384-48	2SA844	Q709	8-729-663-47	2SC1364
					00 8 4 000
Ω9	8-729-384-48	2SA844	Q710	8-729-602-67	2SA1026
Q10	8-729-384-48	2SA844	Q711	8-729-663-47	2SC1364
Q11	8-729-663-47	2SC1364			
Q12	8-729-663-47	2SC1364			
Q13	8-729-663-47	2SC1364			
			R157	1-244-873-00	CARBON 1K 1/2W 5%
Q14	8-729-663-47	2SC1364			
Q15	8-729-663-47	2SC1364		***	
Q16	8-729-663-47	2SC1364	***************************************		
Q17	8-729-663-47	2SC1364	⋒ R290	1-217-387-00	FUSIBLE 10 1/4W 5%
Q18	8-729-663-47	2SC1364			
4.0	0.20000				
Q19	8-729-201-04	2SC2878	№ R292	1-217-446-00	FUSIBLE 100 1/2W 5%
Q20	8-729-663-47	2SC1364			
Q21	8-729-177-43	2SD774	************************		
				1-217-391-00	FUSIBLE 22 1/4W 5%
Q22	8-729-364-12	2\$C641K	····		
Q23	8-729-384-48	2SA844			
024	0 700 000 47	2501264		-	
Q24	8-729-663-47	2SC1364			
Q25	8-729-663-47	2SC1364		* *	
Q26	8-729-384-48	2SA844			
Q27	8-729-384-48	2SA844			
Q28	8-729-201-04	2SC2878			

The shaded and A-marked components are critical to safety.

Replace only with same components as specified.

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
,,,,,,,	t an to those				
RV1	1-224-255-XX	VAR, METAL 100K	C25	1-108-571-00	MYLAR 0.0047 5% 50V
RV2	1-224-255-XX	VAR, METAL 100K	C26	1-108-563-00	MYLAR 0.0022 5% 50V
RV3		VAR, METAL 10K	C27	1-131-501-00	TANTALUM 3.3 10% 10V
RV4	1-224-254-XX	VAR, METAL 47K	C28	1-131-501-00	TANTALUM 3.3 10% 10V
RV5	1-224-255-XX	VAR, METAL 100K	C29	1-108-595-00	MYLAR 0.047 5% 50V
	S/N. Up to 1	1645(PAL), 10135(SECAM)			
RV5	1-226-775-00	VAR, METAL 100K	C30	1-131-377-00	TANTALUM 10 10% 10V
	S/N. 11646(PAL), 10136(SECAM) and higher	C31	1-131-498-00	TANTALUM 1 10% 25V
RV6	1-224-256-XX	VAR, METAL 220K	C34	1-131-345-00	TANTALUM 0.47 10% 35V
RV7	1-224-256-XX	VAR, METAL 220K	C35	1-131-347-00	TANTALUM 1 10% 35V
	S/N. Up to 1	11645(PAL), 10135(SECAM)	C39	1-131-341-00	TANTALUM 0.1 10% 35V
RV7	1-226-776-00	VAR, METAL 220K			
	S/N. 11646	(PAL), 10136(SECAM) and higher	C41	1-108-595-00	MYLAR 0.047 5% 50V
RV8	1-224-256-XX	VAR, METAL 220K	C42	1-108-595-00	MYLAR 0.047 5% 50V
RV9	1-224-255-XX	VAR, METAL 100K	C43	1-131-499-00	TANTALUM 1.5 10% 20V
RV10	1-224-253-XX	VAR, METAL 22K	C44	1-131-372-00	TANTALUM 15 10% 16V
RV11	1-224-252-XX	VAR, METAL 10K	C45	1-131-412-00	TANTALUM 0.47 20% 20V
RV12	1-224-251-XX	VAR, METAL 4.7K			
RV13	1-224-249-XX	VAR, METAL 1K	C46	1-131-412-00	TANTALUM 0.47 20% 20V
RV14		VAR, METAL 47K	C47	1-108-595-00	MYLAR 0.047 5% 50V
RV15	1-224-252-XX	VAR, METAL 10K	C48	1-108-579-00	MYLAR 0.01 5% 50V
RV16		VAR, METAL 470	C49	1-131-412-00	TANTALUM 0.47 20% 20V
RV17		VAR, METAL 47K	C51	1-131-412-00	TANTALUM 0.47 20% 20V
RV100	1-226-774-00	VAR, METAL 47K	•		The second of th
		S(PAL), 10186(SECAM) and higher	C52	1-108-559-00	MYLAR 0.0015 5% 50V
RV501		VAR, METAL 220K	C53	1-108-567-00	MYLAR 0.0033 5% 50V
RV502	1-224-256-XX	VAR, METAL 220K	C54	1-131-341-00	TANTALUM 0.1 10% 35V
		12585(PAL), 10235(SECAM)	C95	1-131-498-00	TANTALUM 1 10% 25V
SY-36 BO	ARD		C96	1-131-498-00	TANTALUM 1 10% 25V
	A-6717-206-A	MOUNTED CIRCUIT BOARD, SY-36			
	S/N. Up to	11645(PAL), 10105(SECAM)	C97	1-131-500-00	TANTALUM 2.2 10% 16V
	A-6717-206-B		C98	1-131-498-00	TANTALUM 1 10% 25V
	S/N. 11646	(PAL), 10106(SECAM) and higher	C99	1-131-409-00	TANTALUM 0.33 20% 25V
			C100	1-108-579-00	MYLAR 0.01 5% 50V
C1	1-131-498-00	TANTALUM 1 10% 25V	C101	1-131-498-00	TANTALUM 1 10% 25V
C2	1-131-501-00	TANTALUM 3.3 10% 10V			TABITALLIBA 4 400/ 25V
C3	1-131-412-00	TANTALUM 0.47 20% 20V	C102	1-131-498-00	TANTALUM 1 10% 25V TANTALUM 1 10% 25V
C4	1-131-500-00	TANTALUM 2.2 10% 16V	C103	1-131-498-00	MYLAR 0.0033 5% 50V
C5	1-131-344-00	TANTALUM 0.33 10% 35V	C112	1-108-567-00	TANTALUM 3.3 10% 16V
C6	1-131-501-00	TANTALUM 3.3 10% 10V	C114	1-131-368-00	
C7	1-131-499-00	TANTALUM 1.5 10% 20V	C115	1-131-498-00	TANTALUM 1 10% 25V
C9	1-131-498-00	TANTALUM 1 10% 25V		4 400 444 00	OF DAMIC 4709 10% 50V
C10	1-131-369-00	TANTALUM 4.7 10% 16V	C116	1-102-114-00	CERAMIC 470P 10% 50V CERAMIC 470P 10% 50V
C11	1-131-498-00	TANTALUM 1 10% 25V	C117	1-102-114-00	TANTALUM 1 10% 25V
C12	1-131-498-00	TANTALUM 1 10% 25V	C118	1-131-498-00	MYLAR 0.01 5% 50V
C13	1-131-498-00	TANTALUM 1 10% 25V	C119	1-108-579-00	MYLAR 0.047 5% 50V
			C120	1-108-595-00	WITLAN 0.047 5% 50V
C14	1-131-500-00	TANTALUM 2.2 10% 16V		4 404 044 00	TANTALUM 0.33 10% 35V
C15	1-108-579-00	MYLAR 0.01 5% 50V	C121	1-131-344-00	TANTALUM 0.47 10% 35V
C16	1-131-377-00	TANTALUM 10 10% 10V	C122	1-131-345-00	TANTALUM 0.1 10% 35V
C17	1-108-579-00	MYLAR 0.01 5% 50V	C125	1-131-341-00	TANTALUM 0.1 10% 35V
C18	1-108-595-00	MYLAR 0.047 5% 50V	C126	1-131-341-00	TANTALUM 0.1 10% 35V
			C127	1-131-341-00	1 AN 1 ALOW 0.1 20% 05 V
C19	1-131-498-00	TANTALUM 1 10% 25V	D1	8-719-815-55	1,51555
C20	1-108-595-00		D2	8-719-815-55	181555
C21	1-131-500-00	TANTALUM 2.2 10% 16V	D3	8-719-815-55	1S1555
C22	1-131-345-00		D4	8-719-815-55	1S1555
C24	1-131-341-00	TANTALUM 0.1 10% 35V	D5	8-719-815-55	1S1555
NOTE:					
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	*					
Ref. No.	Parts No.	Description		Ref. No.	Parts No.	Description
D6	8-719-815-55	1\$1555		IC1	8-759-241-61	TC40161BP (CD40161BE; RCA)
D7	8-719-815-55	1S1555		IC2	8-759-245-12	TC4512BP (MC14512BCP; MOT)
D8	8-719-815-55	181555		IC3	8-759-240-81	TC4081BP (CD4081BE; RCA)
D9	8-719-815-55	1S1555	•	1C3	8-759-240-11	TC4001BP (CD4001BE; RCA)
D9 D10		1S1555 1S1555				
טוט	8-719-815-55	191999	0.00	IC5	8-759-240-73	TC4073BP (CD4073BE; RCA)
D11	8-719-815-55	1S1555		IC6	8-759-240-75	TC4075BP (CD4075BE; RCA)
D12	8-719-815-55	181555		IC7	8-759-240-81	TC4081BP (CD4081BE; RCA)
D13	8-719-815-55	1S1555		IC8	8-759-245-12	TC4512BP (MC14512BCP; MOT)
D14	8-719-815-55	1S1555		IC9	8-759-240-81	TC4081BP (CD4081BE; RCA)
D15	8-719-815-55	181555		IC10	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D16	8-719-815-55	1S1555		IC11	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
				IC12	8-759-240-82	TC4082BP (CD4082BE; RCA)
D20	8-719-815-55	1S1555		IC13	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D21	8-719-815-55	181555		IC14	8-759-240-71	TC4071BP (CD4071BE; RCA)
D22	8-719-815-55	1S1555		IC15	8-759-240-01	TC4001BP (CD4001BE; RCA)
522	0-7 19-015-55	- 101000 101000		1015		· TO4001BF (CD4001BE; RCA)
D23	8-719-815-55	181555		IC16	8-759-240-43	TC4043BP (CD4043BE; RCA)
D25	8-719-815-55	1S1555		IC17	8-759-240-71	TC4071BP (CD4071BE; RCA)
D26	8-719-815-55	1S1555		IC18	8-759-240-71	TC4071BP (CD4071BE; RCA)
D27	8-719-815-55	1S1555		IC19	8-759-240-73	TC4073BP (CD4073BE; RCA)
	The second section of the second seco	to a manta (Mari		IC20	8-759-645-29	M54529P (MITSUBISHI)
D30	0 740 045 55	1\$1555		IC21	8-759-240-25	TC4025BP (CD4025BE; RCA)
	8-719-815-55			IC22	8-759-240-75	TC4075BP (CD4075BE; RCA)
D31 D33	8-719-815-55 8-719-815-55	1S1555 1S1555		IC22	8-759-240-01	TC4001BP (CD4001BE; RCA)
		1S1555 1S1555		IC23	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D34	8-719-815-55	191909		IC25	8-759-240-25	TC4025BP (CD4025BE; RCA)
D35	8-719-815-55	1\$1555		1025	0-759-240-25	1C4025BF (CD4025BE; RCA)
D36	8-719-815-55	1\$1555		IC26	8-759-240-43	TC4043BP (CD4043BE; RCA)
D37	8-719-815-55	1S1555		IC27	8-759-645-29	M54529P (MITSUBISHI)
D37	8-719-815-55	1S1555		IC27	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
D39	8-719-815-55	1S1555 1S1555		IC29	8-759-240-23	
D39	6-7 19-6 10-55	131555		1C30	8-759-045-84	TC4023BP (CD4023BE; RCA) MC14584BCP (MOTOROLA)
D40	8-719-815-55	1S1555				58 A 40 S S S S S S S S S S S S S S S S S S
D41	8-719-815-55	1S1555		IC31	8-759-240-81	TC4081BP (CD4081BE; RCA)
D42	8-719-815-55	1S1555		IC32	8-759-240-11	TC4011BP (CD4011BE; RCA)
D43	8-719-815-55	1S1555		IC33	8-759-240-01	TC4001BP (CD4001BE; RCA)
D44	8-719-815-55	1S1555		/ IC34	8-759-240-69	TC4069UBP (CD4069UBE; RCA)
				IC35	8-759-240-75	TC4075BP (CD4075BE: RCA)
D45	8-719-815-55	1S1555				
D46	8-719-815-55	1S1555		IC36	8-759-240-71	TC4071BP (CD4071BE; RCA)
D47	8-719-815-55	1S1555		IC37	8-759-240-12	TC4012BP (CD4012BE; RCA)
D48	8-719-815-55	1S1555		1C38	8-759-240-71	TC4071BP (CD4071BE; RCA)
D49	8-719-815-55	181555		IC39	8-759-240-72	TC4072BP (CD4072BE; RCA)
DEO	0.740.045.55	104EEE		IC40	8-759-240-73	TC4073BP (CD4073BE; RCA)
D50	8-719-815-55	181555				
D51	8-719-815-55	181555		IC41	8-759-245-28	TC4528BP (MC14528BCP; MOT)
D52	8-719-815-55	181555		IC42	8-759-240-81	TC4081BP (CD4081BE; RCA)
D53	8-719-815-55	181555	•	IC43	8-759-240-11	TC4011BP (CD4011BE; RCA)
D54	8-719-815-55	1S1555	4	IC44	8-759-645-29	M54529P (MITSUBISHI)
DEE	9 710 91E EF	101555		IC45	8-759-240-73	TC4073BP (CD4073BE; RCA)
D55	8-719-815-55	1S1555				
D56	8-719-815-55	1S1555		IC46	8-759-240-71	TC4071BP (CD4071BE; RCA)
D57	8-719-815-55	181555		IC47	8-759-240-01	TC4001BP (CD4001BE; RCA)
D58	8-719-815-55	1S1555		IC48	8-759-240-01	TC4001BP (CD4001BE; RCA)
D59	8-719-911-19	188119		IC49	8-759-240-11	TC4011BP (CD4011BE; RCA)
				IC50	8-759-345-38	HD14538BP (HITACHI)
NOTE:						

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Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
1054	0.350.040.60	TOACCORD (CDACCORDE, DCA)	CNIQ1:	1 560 454 21	40P
IC51	8-759-240-68	TC4068BP (CD4068BE; RCA)	CN31	1-560-454-31	
IC52	8-759-240-23	TC4023BP (CD4023BE; RCA)	CN32	1-560-454-31	40P
IC53	8-759-240-43	TC4043BP (CD4023BE; RCA)			
IC54	8-759-240-69	TC4069UBP (CD4069UBE; RCA)			15.76
IC55	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	D1	8-719-168-88	RD6.8F-B
			D2	8-719-709-25	1S1925-P
IC56	8-759-645-29	M54529P (MITSUBISHI)	D3	8-719-815-55	1S1555
IC57	8-759-240-93	TC4093BP (CD4093BE; RCA)	D4	8-719-815-55	1S1555
IC58	8-759-240-73	TC4073BP (CD4073BE; RCA)	D5	8-719-815-55	1S1555
IC59	8-759-240-01	TC4001BP (CD4001BE; RCA)		0,100.00	
IC60	8-759-645-29	M54529P (MITSUBISHI)	D7	8-719-815-55	1S1555
IC61	8-759-045-84	MC14584BCP (MOTOROLA)	D8	8-719-815-55	181555
1001	9 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	in the second of	_		a territoria de la companya della companya della companya de la companya della co
1000			D10	8-719-815-59	1S1555-S
IC62	8-759-645-29	M54529P (MITSUBISHI)		(S/N. Up to 121	
IC63	8-759-240-27	TC4027BP (CD4027BE; RCA)		\S/N. Up to 101	85(SECAM) /
IC64	8-759-240-71	TC4071BP (CD4071BE; RCA)	IC1	8-759-005-14	AM9513DC (AMD)
IC65	8-759-240-82	TC4082BP (CD4082BE; RCA)	IC2	8-759-906-80	LH0080 (SHARP)
IC66	8-757-561-00	CX-756A (SONY)	IC3	* 8-759-762-24	MBM2732U8001-8 (FUJITSU)
	.1 3度产格性和43	144 246 A. TOROBUST	IC4	8-759-906-84	LH0084 (SHARP)
1C67	8-757-570-00	CX-757 (SONY)	IC5	8-759-005-19	AM9519APC (AMD)
1C68	8-759-240-01	TC4001BP (CD4001BE; RCA)	103	0 700 000 10	್. ಆರಾಹಕ್ಷಗಳಲ್ಲಿ ಕ್ರಾಟ್ ಬರ್ಬಾಕ್ ಜ
IC69	8-759-240-71	TC4071BP (CD4071BE; RCA)	IC6	* 8-759-762-26	MBM2732U8003-8 (FUJITSU)
IC70	8-759-240-81	TC4081BP (CD4081BE; RCA)	IC7	* 8-759-762-25	MBM2732U8002-8 (FUJITSU)
IC71	8-759-240-11	TC4011BP (CD4011BE; RCA)	IC8	8-759-921-28	MSM2128-1AS (OKI)
	14 BACHET	waters of the part 48" in	IC9	8-759-926-31	AM26LS31PC (AMD)
IC72	8-759-240-81	TC4081BP (CD4081BE; RCA)	IC10	8-759-926-32	AM26LS32PC (AMD)
IC73	8-759-240-69	TC4069UBP (CD4069UBE; RCA)	1010	0-709-920-32	AIVIZOLSSZFC (AIVID)
IC74	8-759-240-75	TC4075BP (CD4075BE; RCA)		0.750.000.44	000000000000000000000000000000000000000
	1 14 (Prince 24)	1888 18 1 TO 18 18 18 18 18 18 18 18 18 18 18 18 18	IC11	8-759-902-44	SN74LS244N (TI)
			IC12	8-759-901-39	SN74LS139N (TI)
Ω1	8-729-201-04	2SC2878	IC14	8-759-045-98	MC14598BCP (MOTOROLA)
Q2	8-729-663-47	2SC1364	IC15	8-759-974-07	SN7407N (TI)
Q3	8-729-663-47	2SC1364	IC16	8-759-902-44	SN74LS244N (TI)
us	0-729-003-47	2304364			48.37 Page 14.1.3 Page 1
		Supplies	IC17	8-759-900-74	SN74LS74AN (TI)
RV1	1 226 006 00	VAR, METAL 500K	IC18	8-759-902-44	SN74LS244N (TI)
	1-226-096-00	i de la companya del companya de la companya de la companya del companya de la co	IC19	8-759-045-98	MC14598BCP (MOTOROLA)
RV2	1-224-940-00	VAR, METAL 10K	IC20	8-759-903-78	SN74LS378N (TI)
RV3	1-226-096-00	VAR, METAL 500K	IC21	8-759-903-77	SN74LS377N (TI)
			IC22	8-759-801-11	LB1261 (SANYO)
			IC23	8-759-801-11	LB1261 (SANYO)
		to the second second	IC24	8-759-045-98	MC14598BCP (MOTOROLA)
			IC25	8-759-900-05	SN74LS05N (TI)
				8-759-903-77	SN74LS377N (TI)
			IC26	6-759-903-77	31474E337714 (11)
				0.750.000.74	TOAGUGTAD (TOSUUDA)
			IC27	8-759-220-74	TC40H074P (TOSHIBA)
SY-37 BOA	RD (*: IC3.	6, 7, 72: Not handling at RPC)	IC28	8-759-240-20	TC4020BP (CD4020BE; RCA)
	, . , 50,	=, -, - =	IC29	8-759-902-44	SN74LS244N (TI)
	A-6717-207-B	MOUNTED CIRCUIT BOARD,	IC30	8-759-045-98	MC14598BCP (MOTOROLA)
•		SY-37	IC31	8-759-900-05	SN74LS05N (TI)
		31-07		•	
			IC32	8-759-903-77	SN74LS377N (TI)
C2	1-102-108-00	CERAMIC 150PF 10% 50V	IC33	8-759-900-32	SN74LS32N (TI)
C4	1-131-377-00	TANTALUM 10 20% 10V	IC34	8-759-240-01	TC4001BP (CD4001BE; RCA)
C5	1-102-963-00	CERAMIC 33PF 5% 50V			
C6	1-102-963-00	CERAMIC 33PF 5% 50V			
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Ref. No.	Parts No.	Description	Ref.No.	Parts No.	Description
IC35	8-759-902-44	SN74LS244N (TI)	SY-37A BO	DARD	and the second s
	/ S/N. Up to	12185(PAL) \		1 2 3 2 2 1 2	- Packil III Beed III III
	S/N. Up to	10185(SECAM)		A-6717-207-C	MOUNTED CIRCUIT BOARD,
IC35	8-759-692-44	M74LS244P(MITSUBISHI)		pr 100 mm 1 7 N	SY-37A
	I	and higher(PAL) and higher(SECAM)			
IC36	8-759-045-98	MC14598BCP (MOTOROLA)		grade Mariana	- 現場構造を作ったという名となるとは名が行った。
1000	0,000,000	A PRINTER OF STREET	C1	1-123-309-00	ELECT 330 20% 10V
IC37	8-759-245-12	TC4512BP (MC14512BCP; MOT)	C2	1-102-108-00	CERAMIC 150PF 10% 50V
IC38	8-759-903-77	SN74LS377N (TI)	C3	1-123-332-00	ELECT 47 20% 25V
IC39	8-759-045-84	MC14584BCP (MOTOROLA)	C5	1-102-963-00	CERAMIC 33PF 5% 50V
IC40	8-759-902-44	SN74LS244N (TI)	C6	1-102-963-00	CERAMIC 33PF 5% 50V
IC41	8-759-045-98	MC14598BCP (MOTOROLA)			AUSSI IUSIAN TUUR IUS KAN
1041	0,000,000		C7	1-102-074-00	CERAMIC 0.001 10% 50V
IC42	8-759-245-12	TC4512BP (MC14512BCP; MOT)		applications of	1988 Mally 17 12 12 12 12 12 12 12 12 12 12 12 12 12
IC43	8-759-903-77	SN74LS377N (TI)			to the post of a transfer to the
1C44	8-759-901-38	SN74LS138N (TI)			1.美国基础的基础的
IC45	8-759-729-03	NJM2903D (JRC)	CN31	1-560-454-31	FLAT CABLE, 40P
IC46	8-759-902-44	SN74LS244N (TI)	CN32	1-560-454-31	FLAT CABLE, 40P
10-10		<u> </u>		The Charles Charles	。 表現實際的1986年,1987年,1987年,1987年
IC48	8-759-245-12	TC4512BP (MC14512BCP; MOT)		2.84 (9.41)	1. 148 2.5 May 1. 1. 2. 3. 3. 3. 4. 5. Arts
IC49	8-759-903-77	SN74LS377N (TI)		j 1 g4	11.000% A \$200.
IC50	8-759-901-38	SN74LS138N (TI)	D1	8-719-168-88	RD6.8F-B
IC51	8-759-223-68	TC40H368P (TOSHIBA)	D2	8-719-101-97	1SS97-1
IC52	8-759-902-44	SN74LS244N (TI)	D3	8-719-911-19	1SS119
1002	0,00000		D5	8-719-911-19	1SS119
IC53	8-759-245-12	TC4512BP (MC14512BCP; MOT)	D7	8-719-911-19	1SS119
IC54	8-759-903-77	SN74LS377N (TI)			1 1 536 383 MH
1C55	8-759-901-38	SN74LS138N (TI)	D8	8-719-911-19	1SS119
IC56	8-759-903-77	SN74LS377N (TI)	D9	8-719-911-19	1SS119
IC57	8-759-245-12	TC4512BP (MC14512BCP; MOT)	D10	8-719-911-19	1SS119
		was regarded a warr			Carlot Andrews
IC58	8-759-903-77	SN74LS377N (TI)		477	2の発現動力が、 100mmの 100mm 1
1C59	8-759-901-38	SN74LS138N (TI)		. (* - 3	1.5% (18% 18/0)
IC61	8-759-100-54	μPA54H (NEC)	IC1	8-759-995-14	AM9513DC (TI)
IC62	8-759-100-64	μPA64H (NEC)	IC2	8-759-960-80	LH0080 (SHARP)
IC63	8-759-100-54	μPA54H (NEC)	IC4	8-759-906-84	LH0084 (SHARP)
·		Company of the Compan	IC5	8-759-995-19	AM9519APC (TI)
IC64	8-759-100-64	μPA64H (NEC)	IC8	8-759-905-23	MSM2128-15RS (OKI)
IC65	8-759-901-58	SN74LS158N (TI)			and the second second
IC66	8-759-901-58	SN74LS158N (TI)	IC9	8-759-926-31	AM26LS31PC (TI)
IC70	8-759-926-31	AM26LS31PC (AMD)	IC10	8-759-926-32	AM26LS32PC (TI)
IC71	8-759-926-32	AM26LS32PC (AMD)	IC11	8-759-902-44	SN74LS244N (TI)
IC72	* 8-759-762-27	MBM2732U8004-8	IC12	8-759-901-39	and the second of the second o
			IC14	8-759-045-98	MC14598BCP (MOTOROLA)
Q1	8-729-663-47	2SC1364	IC15	8-759-974-07	SN7407N (TI)
Q2	8-729-315-63	2SB856	IC16	8-759-902-44	SN74LS244N (T1)
Q3	8-729-663-48	2SC1364	IC17	8-759-900-74	SN74LS74AN (TI)
23	0-729-003-40	230 1304	IC18	8-759-902-44	SN74LS244N (TI)
			IC19	8-759-045-98	MC14598BCP (MOTOROLA)
S1	1-553-542-00	KEY "RESET"			
S2	1-516-923-00	DIP	IC20	8-759-903-78	SN74LS378N (TI)
S3	1-553-076-00	SLIDE	IC21	8-759-903-77	SN74LS377N (TI)
SŠ	1-516-925-21	DIP "EIA/CCIR"	IC22	8-759-801-11	LB1261 (SANYO)
			IC23	8-759-801-11	LB1261 (SANYO)
X1	1-527-827-00	4.9152MHz	IC24	8-759-045-98	MC14598BCP (MOTOROLA)
	. ==: 22. 30				

The shaded and <u>↑</u> marked components are critical to safety.
 Replace only with same components as specified.

1040 0-700-E40 12 10-10 125. (1-0-11)2-17						
1.028	Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
1.028			01741 00511 (T1)	0.1	o 720 600 28°	25C63/ISP-8
1027 3-759-220-74 TC40H07aP (TOSHIBA) Q3 8-729-600-28 2SC634SP-8						
1.22		- ·	그는 그 얼마 이 사람들이 되었다. 그 가게 하는 것 같아 그 때문에 되었다.			
IC29					The second of the second	
C30	IC28			04	8-729-600-28	28C6345P-8
C32	IC29	8-759-902-44	SN74LS244N (TI)			
C32					1.1	284-100
1G32 B.759.903.77 SN74LS377N (TI) S2 1.570.589.11 SWITCH, DIP ST759.809.32 SWITCH, SIDE SWITCH, DIP SWITCH, SIDE SWITCH, DIP SWITCH, SIDE SWITCH, SIDE SWITCH, DIP SWITCH, SIDE SWITCH, DIP SWITCH, SIDE SWITCH, DIP SWITCH, SIDE SWITCH, DIP SWITCH,					4 550 540 00	CMITCH KEV
1.533 8-758-90.03-2 SN74LS32N (TI) S3 1-553-076-21 SWITCH, SLIDE SWITCH, SLIDE SWITCH, DIP	•		Table Roll College Col		- /	
1.634 8.759-240-01 TC4001BP (TOSHIBA) S5 1.570-823-11 SWITCH, DIP	IC32	8-759-903-77	그 중의 열면하다는 경험이 가는 전기 확인된 하는 그는 그는 그는 그를 다 하는 것이다.			•
C35	IC33	8-759-900-32	SN74LS32N (TI)			•
1.53	IC34	8-759-240-01	TC4001BP (TOSHIBA)	\$ 5	1-570-623-11	SWITCH, DIP 11
1.53			ONTAL COASS (TI)		+87	10.300
C37		一一貫作 一つ経りを まずかたりん	The Control of the Co			
IC38		-				ODVOTAL ADAESMALL
IC39				X1	1-527-827-00	CRYSTAL, 4.9192WHZ
C40	IC38					
C40	IC39	8-759-045-84	MC14584BCP (MOTOROLA)			
C40						
C42	1C40	8-759-902-44	SN74LS244N (TI)		,	Apply Market Committee and Committee and
IC43	IC41	8-759-045-98	MC14598BCP (MOTOROLA)			
IC44	IC42	8-759-245-12	TC4512BP (TOSHIBA)		1.00	The state of the s
IC45	IC43	8-759-903-77	SN74LS377N (TI)	<i>7</i>		Note the wild in the State of t
IC45	IC44	8-759-901-38	SN74LS138N (TI)			orthography and some state of the source of
C46 8,759-90-44 SN74LS244N (TI)			2017年建設 1000年代		100	Committee of the contract of t
IC46	IC45	8-759-729-03	NJM2903D (JRC)	SY-71 BO	ARD	Mark the state of
C48				9888		·
C50			The Electric State of the State	※ /	A-6717-208-A	MOUNTED CIRCUIT BOARD,
IC50		=			:	SY-71
IC51					4	and the state of t
1.551	1030	Q-733-30 I-30				and the second s
1.123-299-00 ELECT 1000 20% 6.3V 1.123-299-00	ICE1	0 750 223.68	TCANH368P (TOSHIRA)		THE RESERVE OF	The second of the second
C52				C13	1-123-299-00	ELECT 1000 20% 6.3V
IC53						
IC55						- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
IC56			Table State Broken Broken Co. Dr. Dr. Broken			est of the second
IC57 8-759-245-12 TC4512BP (TOSHIBA) D2 8-719-815-55 1S1555 IC58 8-759-903-77 SN74LS377N (TI) D3 8-719-815-55 IS1555 IC59 8-759-901-38 SN74LS138N (TI) D4 8-719-815-55 IS1555 IC61 8-759-100-54	ICOO	0-709-901-30	3N/4E3 (30N (11))			and the second second
IC57	ICE6	8.759.903.77	SN741 S377N (TI)	D1	8-719-815-55	1S1555
IC58 8-759-903-77 SN74LS377N (TI) D3 8-719-815-55 1S1555 IC59 8-759-901-38 SN74LS138N (TI) D4 8-719-815-55 1S1555 IC61 8-759-100-54 μPA54H (NEC) D5 8-719-815-55 1S1555 IC62 8-759-100-64 μPA64H (NEC) D6 8-719-815-55 1S1555 IC63 8-759-100-64 μPA64H (NEC) D7 8-719-815-55 1S1555 IC64 8-759-100-64 μPA64H (NEC) D8 8-719-200-02 10E-2 IC65 8-759-901-58 SN74LS158N (TI) D9 8-719-200-02 10E-2 IC66 8-759-901-58 SN74LS158N (TI) D10 8-719-200-02 10E-2 IC70 8-759-926-31 AM26LS31PC (TI) D11 8-719-815-55 1S1555 IC71 8-759-926-32 AM26LS32PC (TI) D12 8-719-815-55 1S1555 IC73 8-759-901-39 SN74LS139N (TI) D13 8-719-200-02 10E-2 IC74 8-759-901-39 SN74LS139N (TI) D14 8-719-200-02 10E-2 IC75 8-759-770-63 </td <td></td> <td></td> <td></td> <td>D2</td> <td>8-719-815-55</td> <td>1S1555</td>				D2	8-719-815-55	1S1555
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1C75 8-759-770-63 27128-U800V-91C75 D15 8-719-200-02 10E-2 D16 8-719-815-55 1S1555 D18 8-719-200-02 10E-2 L1 1-459-155-00 45μH D19 8-719-200-02 10E-2						and the second s
D16 8-719-815-55 1S1555 D18 8-719-200-02 10E-2 L1 1-459-155-00 45μΗ D19 8-719-200-02 10E-2						
D18 8-719-200-02 10E-2 L1 1-459-155-00 45μΗ D19 8-719-200-02 10E-2	1075	8-159-110-63	Z1128-U8UUV-91U/5		0-7 19-200-02	1VL-2
D18 8-719-200-02 10E-2 L1 1-459-155-00 45μΗ D19 8-719-200-02 10E-2				D16	8.710.815.55	181555
L1 1-459-155-00 45μH D19 8-719-200-02 10E-2						
E1 1-400 100 00 10/mi		4 450 455 55	A.E			
DZU 0-7 13-200-02 10C-2	LT	1-459-155-00	49μ π			
NOTE:	NOTE:			520	0-7 10-200-0Z	100-2

I. The shaded and Amarked components are critical to safety.

Replace only with same components as specified.

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Ref. No.	Parts No.	Description		Ref. No.	Parts No.	Description
D21	8-719-815-55	1S1555		Q11	8-729-663-47	2SC1364
		1S1555		Q12	8-729-103-43	2SB734
D22	8-719-815-55				8-729-177-43	2SD774
D23	8-719-200-02	10E-2		Q13		2SC1364
D24	8-719-200-02	10E-2		Q14	8-729-663-47	
D25	8-719-200-02	10E-2		Q15	8-729-663-47	2SC1364
D26	8-719-815-55	1S1555	•	Q16	8-729-177-43	2SD774
D28	8-719-815-55	181555		Q17	8-729-103-43	2SB734
D29	8-719-200-02	10E-2		Q18	8-729-663-47	2SC1364
	8-719-200-02	10E-2		Q19	8-729-663-47	2SC1364
D31	2. 1. 1945年 新沙山市 2004年。	10E-2		Q20	8-729-283-42	2SB834
D33	8-719-200-02	105-2		420	0,20,20	
D34	8-719-200-02	10E-2		Q21	8-729-331-53	2SC2315
D35	8-719-200-02	10E-2		Q22	8-729-663-47	2SC1364
D37	8-719-815-55	1S1555		Q23	8-729-283-42	2SB834
	8-719-200-02	10E-2		Q24	8-729-331-53	2SC2315
D38		GOVERNMENT OF THE STREET		Q25	8-729-663-47	2SC1364
D39	8-719-815-55	1S1555			90 ms	· 建铁色型
D40	8-719-200-02	10E-2		Q26	8-729-283-42	2SB834
D40	8-719-815-55	1S1555		Q27	8-729-331-53	2SC2315
D41		10E-2		Q28	8-729-663-47	2SC1364
D42	8-719-200-02	10E-2		Q29	8-729-663-47	2SC1364
D43	8-719-200-02	10E-2		Ω30	8-729-384-48	2SA844
D44	8-719-200-02	3.45 Sept. 10 Sept. 1				1 and 2
D45	8-719-815-55	181555		Q31	8-729-663-47	2SC1364
	8-719-815-55	181555		Q32	8-729-103-43	2SB734
D46		Apple of the contract of		Q33	8-729-663-47	2SC1364
D47	8-719-200-02	10E-2		Q34	8-729-663-47	2SC1364
D48	8-719-200-02	10E-2		Q35	8-729-283-42	2SB834
D49	8-719-200-02	10E-2				- AND
D50	8-719-815-55	1S1555		Q36	8-729-331-53	2SC2315
		1S1555		Q37	8-729-663-47	2SC1364
D52	8-719-815-55	1975 with 3.		O38	8-729-663-47	2SC1364
D53	8-719-815-55	181555		Ω39	8-729-663-47	2SC1364
D54	8-719-200-02	10E-2		Q40	8-729-283-42	2SB834
D55	8-719-200-02	10E-2		440	5 (<u>55,250,72</u> ,	. 2000
D56	8-719-200-02	10E-2		Q41	8-729-331-53	2SC2315
D57	8-719-200-02	10E-2		Q42	8-729-663-47	2SC1364
	8-719-200-02	10E-2		Q52	8-729-663-47	2SC1364
D58	6-7 19-200-02	101-2		Q53	8-729-663-47	2SC1364
					2.00	
		·				
IC1	8-743-430-00	BX-343 (SONY)	9,00			⊗
				∱ R42	1-206-568-00	WIREWOUND 27 10% 5W
			:	<u>:/</u>		
			2000	000000000000000000000000000000000000000	200000000000000000000000000000000000000	8
Q1	8-729-663-47	2SC1364	· ·	∧ R43	1-206-568-00	WIREWOUND 27 10% 5W
Q2	8-729-103-43	2SB734	<u> </u>	:/ n43	1-200-300-00	WINEWOOND 27 10% SIV
Q3	8-729-177-43	2SD774	.0000	DE7	1 244 965 00	CARRON 470 5% 1/3M
Q4	8-729-663-47	2SC1364		R57	1-244-865-00	CARBON 470 5% 1/2W
Q5	8-729-663-47	2SC1364		R61	1-244-865-00	CARBON 470 5% 1/2W
				R70	1-244-865-00	CARBON 470 5% 1/2W
Q6	8-729-103-43	2SB734		R84	1-217-020-00	CARBON 12 5% 3W
Q7	8-729-177-43	2SD774		. 1107	1 217 020-00	3.1115011 12 5/0 OTT
Q8	8-729-663-47	2SC1364				
Q9	8-729-663-47	2SC1364				
Q10	8-729-177-43	2SD774		TC 12 DC	A P N	
				TC-12 BO	ייי	
					1-604-760-00	PRINTED CIRCUIT BOARD

 The shaded and A-marked components are critical to safety.
 Replace only with same components as specified. 1-604-760-00 PRINTED CIRCUIT BOARD, TC-12

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
TC-13-1 BC	OARD		IC101	8-759-700-00	NJM4562DDR (JRC)
		1 독창	IC102	8-751-300-00	CX-130 (SONY)
	A-6715-135-B	MOUNTED CIRCUIT BOARD,	IC103	8-765-222-20	2SC1963 (SONY)
	74 07 10 100 15	TC-13-1	IC104	8-759-100-32	μ PA76V-FA
		10-13-1	IC201	8-749-909-15	BX-3915A (SONY)
			IC202	8-759-045-38	MC14538BCP (MOTOROLA)
C10	1-101-004-00	CERAMIC 0.01 50V		0 ==0 04= 00	1445 TE 155 TE 1
C11	1-102-114-00	CERAMIC 470P 10% 50V	IC203	8-759-245-39	TC4539BP (MC14539BCP; MOT)
C13	1-102-114-00	CERAMIC 470P 10% 50V	IC204	8-759-245-12	TC4512BP (MC14512BCP; MOT)
C107	1-108-583-00	MYLAR 0.015 5% 50V	IC205	8-759-240-01	TC4001BP (CD4001BE; RCA)
C109	1-108-569-00	MYLAR 0.0039 5% 50V	IC206	8-759-240-11	TC4011BP (CD4011BE; RCA)
0103	1-100-303-00	WT EATT 0.0005 370 30V	IC207	8-759-240-85	TC4085BP (CD4085BE; RCA)
		\$4.5 mg/Ny 1			Commence of the second
C140	1-108-579-00	MYLAR 0.01 5% 50V			Section (Section 2)
C142	1-108-573-00	MYLAR 0.0033 5% 50V	Q101	8-729-663-47	2SC1364
C205	1-108-569-00	MYLAR 0.0033 5% 50V	Q102	8-729-201-04	2SC2878
		MYLAR 0.0039 5% 50V	Q103	8-729-663-47	2SC1364
C206	1-108-569-00		Q104	8-729-663-47	2SC1364
C210	1-102-114-00	CERAMIC 470PF 10% 50V			0000070
		A SAACAA AA A	Q105	8-729-201-04	2SC2878
:		· 医克里克维 · · · · · · · · · · · · · · · · · · ·			124年 - 1148 - 1
D2	8-719-815-55	1\$1555			$z = i \Sigma X_{ij}$ (1) $z = i \sum_{i \in \mathcal{A}} i X_{ij} = i \sum_{i \in \mathcal{A}} i \sum_{i \in \mathcal{A}$
D101	8-719-815-55	1S1555	Q107	8-729-663-47	2SC1364
D102	8-719-815-55	181555	Q108	8-729-201-04	2SC2878
D103	8-719-101-97	1SS97-1	Q109	8-729-663-47	2SC1364
D104	8-719-101-97	1SS97-1	Q110	8-729-663-47	2SC1364
		is again to the says	£ .	•	- 14.0 Years
D105	8-719-815-55	1 51555 Fulgavillent -	Q111	8-729-663-47	2SC1364
D201	8-719-815-55	1\$1555 ₍₂₎	Q112	8-729-663-47	2SC1364
D202	8-719-815-55	1S1555	Q113	8-729-663-47	2SC1364
D203	8-719-815-55	1S1555	Q114	8-729-663-47	2SC1364
D205	8-719-815-55	1S1555	Q116	8-729-201-04	2SC2878
D203	071501505		Q201	8-729-663-47	2SC1364
		and the second s	Q250	8-729-663-47	2SC1364
		and the second of the second o	Q251	8-729-663-47	2SC1364
IC1	8-759-245-10	TC4510BP (MC14510BCP; MOT)	Q251	0-/25-003-4/	2301304
IC2	8-759-245-10	TC4510BP (MC14510BCP; MOT)			
IC3		TC4510BP (MC14510BCP; MOT)		•	
	8-759-245-10		R139	1-214-084-00	METAL 10 1% 1/4W
IC4	8-759-245-10	TC4510BP (MC14510BCP; MOT)	R153	1-244-849-00	CARBON 100 5% 1/2W
IC5	8-759-245-10	TC4510BP (MC14510BCP; MOT)			
		<u> angle parte i la Carteria.</u>			
IC6	8-759-245-10	TC4510BP (MC1451BCP; MOT)			
IC7	8-759-245-10	TC4510BP (MC14510BCP; MOT)	RV101	1-224-252-XX	VAR, METAL 10K
IC8	8-759-240-23	TC4023BP (CD4023BE; RCA)	RV102	1-224-254-XX	VAR, METAL 47K
IC9	8-759-240-71	TC4071BP (CD4071BE; RCA)	RV103	1-224-254-XX	VAR, METAL 47K
IC10	8-759-240-69	TC4069UBP (CD4069UBE; RCA)		/ S/N. Up to	11490 (PAL)
		Secretaria de la companya del companya de la companya del companya de la companya			10080 (SECAM)
IC11	8-759-040-77	MC14077BCP (CD4077BE; RCA)	RV103		VAR, METAL 100
IC12	8-759-240-27	TC4027BP (CD4027BE; RCA)	H V 103		and higher (PAL)
IC13	8-759-245-12	TC4512BP (MC14512BCP; MOT)			
IC14	8-759-245-12	TC4512BP (MC14512BCP; MOT)		5/14. 10081	and higher (SECAM)
IC15	8-759-245-12	TC4512BP (MC14512BCP; MOT)			
1013	0-759-249-12	104912BF (MIC14912BCF; MIC1)			
1010	0.500.045.45	TO454 000 (1404 4540000 440=1			
IC16	8-759-245-12	TC4512BP (MC14512BCP; MOT)			
IC17	8-759-240-81	TC4081BP (CD4081BE; RCA)			
IC18	8-759-240-73	TC4073BP (CD4073BE; RCA)	TM-4 BOA	ARD	· ·
IC19	8-759-240-71	TC4071BP (CD4071BE; RCA)			•
IC20	8-759-145-19	μPD4519C (MC14519BCP; MOT)		1-604-367-00	PRINTED CIRCUIT BOARD,
				•	TM-4

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		· ·			
Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
TM-8 BOAR	D		C40	1-108-579-00	MYLAR 0.01 5% 50V
• - • · · · ·	_		C41	1-108-579-00	MYLAR 0.01 5% 50V
	1-604-364-00	PRINTED CIRCUIT BOARD, TM-8	C42	1-108-579-00	MYLAR 0.01 5% 50V
	1-00-1-00	THAT TED STITUS TO THE TANK OF THE TENER OF	C44	1-108-579-00	MYLAR 0.01 5% 50V
			C49	1-109-690-00	DIPPED MICA 510PF 1% 500V
		,	C53	1-107-210-00	MICA 22PF 5% 500V
TM-14 BOA	RD		C64	1-107-202-00	MICA 10PF 5% 500V
			C65	1-107-159-00	MICA 33PF 5% 500V
	1-606-977-00	PRINTED CIRCUIT BOARD, TM-14	C71	1-107-159-00	MICA 33PF 5% 500V
			C73	1-108-579-00	MYLAR 0.01 5% 50V
			C75	1-108-579-00	MYLAR 0.01 5% 50V
			0.0		
			C78	1-107-042-00	MICA 2,2PF 500V
			C79	1-107-157-00	MICA 27PF 5% 500V
			C80	1-107-202-00	MICA 10PF 5% 500V
		1	C88	1-107-210-00	MICA 22PF 5% 500V
			C90	1-107-048-00	MICA 6,8PF 500V
YD-9 BOAR	D		Can	1-107-046-00	AND SAME
				1-107-158-00	MICA 30PF 5% 500V
	A-6711-303-A	MOUNTED CIRCUIT BOARD, YD-9	C93	1-109-696-00	DIPPED MICA 910PF 5% 500V
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		C95		MICA 16PF 5% 500V
			C97	1-107-207-00	MICA 5.6PF 500V
			C98	1-107-047-00	MICA 24PF 5% 500V
			C100	1-107-211-00	MICA 16PF 5% 500V
C3	1-161-013-00	CERAMIC 0.01 10% 25V	C101	1-107-207-00	WICA 16FF 5% 500V
C4	1-107-206-00	MICA 15PF 5% 500V	0404	1-107-202-00	MICA 10PF 5% 500V
C5	1-107-206-00	MICA 15PF 5% 500V	C104		MYLAR 0.01 5% 50V
C7	1-108-579-00	MYLAR 0.01 5% 50V	C204	1-108-579-00	MYLAR 0.01 5% 50V
C8	1-108-579-00	MYLAR 0.01 5% 50V	C206	1-108-607-00	TANTALUM 3.3 10% 16V
00	1-100-373-00	WILAR 0.01 3% 30V	C212	1-131-368-00	TANTALUM 3.3 10% 16V
C9	1-108-579-00	MYLAR 0.01 5% 50V	C214	1-131-368-00	TANTALOW 5.5 TOX TOV
C12	1-108-579-00	MYLAR 0.01 5% 50V			
C13	1-108-567-00	MYLAR 0.0033 5% 50V	C216	1-131-363-00	TANTALUM 4.7 10% 25V
C14	1-108-579-00	MYLAR 0.01 5% 50V	C218	1-108-569-00	MYLAR 0.0039 5% 50V
C16	1-107-206-00	MICA 15PF 5% 500V	C219	1-108-565-00	MYLAR 0.0027 5% 50V
0.10	1-107-200-00	WICA 15FF 5% 500V	C221	1-108-579-00	MYLAR 0.01 5% 50V
C18	1-108-569-00	MYLAR 0.0039 5% 50V	C223	1-130-201-00	POLYPROPYLENE 0.068 5% 50V
C19	1-108-567-00	MYLAR 0.0033 5% 50V	C225	1-107-159-00	MICA 33PF 5% 500V
C20	1-131-499-00		C301	1-107-049-00	MICA 8.2PF 500V
C20 C22	1-131-498-00	TANTALUM 1.5 10% 20V			
C22		TANTALUM 1 10% 25V			
C23	1-108-595-00 1-108-603-00	MYLAR 0.047 5% 50V			. *
C32	1-108-603-00	MYLAR 0.1 5% 50V	CV1	1-141-240-00	TRIMMER 20PF
USZ	1-107-065-00	MICA 100PF 5% 500V		/S/N. 12286	and higher(PAL)
C27	1-108-587-00	MYLAR 0.022 5% 50V		4	and higher(SECAM)
C31	1-107-047-00	MICA 5.6PF 500V			· · · · · · · · · · · · · · · · · · ·
C36	1-108-579-00	MYLAR 0.01 5% 50V			

C37

C39

1-108-579-00

1-108-579-00

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 Replace only with same components as specified.

MYLAR 0.01 5% 50V

MYLAR 0.01 5% 50V

Ref. No.	Parts No.	Description		Ref. No.	Parts No.	Description	
D1	8-719-815-55	1S1555		IC1	8-751-340-00	CX-134A (SONY)	
D1	and the second of the second of the second						
D2	8-719-815-55	181555		IC2	8-751-300-00	CX-130 (SONY)	
D3	8-719-147-07	RD4.7E-B		IC3	8-751-300-00	CX-130 (SONY)	
D4	8-719-815-55	181555		IC4	8-759-270-69	TA7069P (TOSHIBA)	
D5	8-719-101-97	1SS97-1		IC5	8-759-270-69	TA7069P (TOSHIBA)	
D6	8-719-101-97	1SS97-1		IC6	8-749-938-90	BX-389 (SONY)	
D7	8-719-101-97	18897-1		IC7	8-751-350-00	CX-135 (SONY)	
D8	8-719-101-97	18897-1		IC8	8-759-270-76	TA7076P (TOSHIBA)	
D9	8-719-815-55	181555		1C9	8-751-300-00	CX-130 (SONY)	
D10	8-719-815-55	1S1555		IC201	8-729-677-14	2SC2771 (MITSUBISHI)	
D 10	0-7 13-0 13-00	10 1000		IC202	8-759-345-38	HD14538BP (HITACHI)	
D11	8-719-815-55	181555		10202	0-7-53-545-56	TIB 14000BL (TITAOTTI)	
D201	8-719-815-55	1S1555					
				. <u></u>	4 407 400 64	MICDO 92	
D202	8-719-815-55	181555	•	L5	1-407-168-61	MICRO 82	
D203	8-719-815-55	1S1555		L12	1-408-654-00	INDUCTOR 1mH	
D204	8-719-815-55	181555		L19	1-407-166-61	MICRO 56μΗ 5%	
D205	8-719-815-55	1S1555		L20	1-407-167-61	MICRO 68	
D206	8-719-815-55	1S1555		L21	1-407-168-61	MICRO 82	
D207	8-719-815-55	1S1555					
	(特数主持) (A) (A) (A)	MATERIAL NO. 10 A STATE		LV1	1-407-571-00	VAR 22	
	477			LV2	1-407-571-00	VAR 22	
	4 v	A 13 10 11		LV3	1-407-285-00	VAR 1.5mH	
DL1	1-415-096-00	0.3μS	•		/S/N. Up to	12185(PAL) \	
	/ S/N. up to 1	13725(PAL) \			S/N. Up to	10185(SECAM)	
	$\$ S/N, up to $^{\prime}$	10355(SECAM)/		LV3	1-407-268-00	VAR 1.5mH	
	1-415-096-31					and higher(PAL)	
	/ S/N. 13726	and higher (PAL)				and higher(SECAM)	
	S/N. 10356	and higher(SECAM) /		LV4	1-407-565-00	VAR 2.2	
DL2	1-415-154-21	35nS		• •	1-407-000-00	· · · · · · · · · · · · · · · · · · ·	
DL3	1-415-154-21	35nS		01	0.704.075.04	200 4020	
DL4	1-415-236-21	1H		Q1	8-724-375-01	2SC403C	
				02	8-724-375-01	2SC403C	
				Q 3	8-729-201-04		
				Q4	8-724-375-01	2SC403C	
FL1	1-235-010-00	HIGH PASS		Q5	8-724-375-01	2SC403C	
	(S/N, up to 1			06	0 720 662 47	2SC1364	
	4.00	0355(SECAM)/		Q6	8-729-663-47		
	1-235-010-21			Q7	8-724-375-01	2SC403C	
•		and higher(PAL)		Q8	8-724-375-01	2SC403C	
	\ S/N. 10356	and higher(SECAM)		Ω9	8-729-384-48	2SA 844	
FL2	1-231-381-00	LOW PASS		Q10	8-729-663-47	2SC1364	
FL3	1-231-380-00	LOW PASS		· · · · · · · · · · · · · · · · · · ·			
	/ S/N. up to 1	13525(PAL) \		Q11	8-729-663-47	2SC1364	
	S/N. up to 1	10355(SECAM)		Q12	8-724-375-01	2SC403C	
	1-231-380-21			Q13	8-729-663-47	2SC1364	
		and higher (PAL)		Q14	8-724-375-01	2SC403C	
		and higher (SECAM)		Q15	8-724-375-01	2SC403C	
	(2,	· · · · · · · · · · · · · · · · · · ·					
	e			Q16	8-724-375-01	2SC403C	
				Q17	8-729-663-47	2SC1364	
		•	*	Q18	8-724-375-01	2SC403C	
				Q19	8-724-375-01	2SC403C	
				Q20	8-724-375-01	2SC403C	
				-: -			
				Q21	8-724-375-01	2SC403C	•
				Q22	8-729-663-47	2SC1364	
				Q23	8-724-375-01	2SC403C	
		•		Q24	8-724-375-01	2SC403C	
				~~ T	J , L-T-U, U-U I		
NOTE:				Q25	8-724-375-01	2SC403C	

^{1.} The shaded and <u>∧</u>-marked components are critical to safety.

BVU-800P/800S

replacement purposes. The remaining parts shown in this manual are not normally required for routine service work.

Replace only with same components as specified.

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description	
Q26	8-724-375-01	2SC403C	RV11	1-224-250-XX	VAR, METAL 2.2K	
Q27	8-723-303-20	2SK43-3A	RV12	1-224-250-XX	VAR, METAL 2.2K	
		2SA844	RV13	1-224-250-XX	VAR, METAL 2.2K	
Q28	8-729-384-48		RV13	1-224-254-XX	VAR, METAL 47K	
Q29	8-724-375-01	2SC403C		1-224-250-XX	VAR, METAL 2.2K	
G30	8-724-375-01	2SC403C	RV15	/S/N. Up to 130		
				S/N. Up to 10		
Q31	8-729-384-48	2SA844		13/14. Op to 10.	200 (SECAWI)	
Q32	8-729-201-05	2SC2878-B	DV201	1-224-255-XX	VAR, METAL 100K	
O33	8-729-201-04	2SC2878	RV201 RV202	1-224-253-XX	VAR, METAL 47K	
Q34	8-724-375-01	2SC403C	N V 202	1-224-254-77	VAN, WEIAE 47K	
Q35	8-724-375-01	2SC403C				
Q36	8-724-375-01	2SC403C	04	4 550 500 00	DID	
Q37	8-724-375-01	2SC403C	S1	1-552-509-00	DIP	
Q39	8-724-375-01	2SC403C	S2	1-552-509-00	DIP	
Q50	8-724-375-01	2SC403C				
Q201	8-724-375-01	2SC403C				
Q202	8-729-384-48	2SA844			49	
		.संक्ष्यं स्व	TH1	1-800-199-00	S-1250	
Q203	8-729-201-04	2SC2878	•			
Q204	8-729-384-48	2SA844				
Q205	8-724-375-01	2SC403C		*		
Q206	8-724-375-01	2SC403C	X1	1-527-976-00	OSC 8.5 MHz	
Q207	8-724-375-01	2SC403C				
Q207	0-72-1070-01	2334030				
Q208	8-724-375-01	2SC403C				
Q209	8-729-384-48	2SA844		•		
Q210	8-724-375-01	2SC403C				
Q211	8-729-384-48	2SA844				
Q212	8-724-375-01	2SC403C				
		1919, Kangara				
Q213	8-729-384-48	2SA844				
Q214	8-724-375-01	2SC403C				
Q215	8-724-375-01	2SC403C	WL-1 BOA	ARD .		
	4			1 004 000 00	DOINTED GLOCKUT	DO 4 D D
				1-604-366-00	PRINTED CIRCUIT	WL-1
	1.					VV L-1
R14	1-247-217-00	CARBON 110 1/2W 5%				
R62	1-247-228-00	CARBON 330 1/2W 5%				
R63	1-247-228-00	CARBON 330 1/2W 5%	D1	8-719-812-44	TL0124	
R95	1-214-135-00	METAL 1.3K 1/4W 1%	. ,	0710012,44		
R247	1-212-712-00	METAL 270K 1/2W 1%				
R248	1-214-178-00	METAL 82K 1/4W 1%				
			PL1	1-518-386-00	5V 30mA	
DV4	4 004 050 VV	WAR METAL ORK	PL2	1-518-386-00	5V 30mA	
RV1	1-224-250-XX					
RV2	1-224-250-XX			* *		
RV3	1-224-249-XX	•				
RV4	1-224-250-XX					
RV5	1-224-250-XX	VAR, METAL 2.2K				
RV6	1-224-251-XX	VAD METAL AZV				
RV7	1-224-251-XX	The state of the s				
RV8	1-224-251-XX	•				
RV9	1-224-254-XX	•				
RV10	1-224-250-XX	VAR, METAL 2.2K				

The shaded and Marked components are critical to

Replace only with same components as specified.

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
FRAME (REF. NO. 200 SE	RIES)	H201	8-829-358-35	EPP150-5803B "AUDIO/CTL"
			H202	8-829-371-11	PP171-5802D "TIME CODE R/P"
	A-6742-034-A	DETECTOR T ASS'Y	H203	8-825-544-10	EF232-58 "FULL ERASE"
		(WITH LE-4B, PH-1B)		/ S/N. Up to	
	A-6742-036-B	DETECTOR S ASS'Y			10235 (SECAM) /
		(WITH LE-4A, PH-1A)		8-825-544-20	EF248-58 "FULL ERASE"
	۸		•		and higher (PAL) and higher (SECAM)
	<u>/</u> 1-526-572-00	VOLTAGE SELECTOR	H204	,	RV-14, UPPER DRUM "VIDEO" "
**	1-555-698-00	WIRE ASS'Y, FLAT 40P (100mm)	H204	A-0705-140-A	NV-14, OFFER DROW VIDEO
	1-000-096-00	SY-37 TO KY-9			
	1-555-699-00	WIRE ASS'Y, FLAT 40P (160mm)			
	1 333 033 00	MB-8 TO MB-9	330000000000000000000000000000000000000	:::::::::::::::::::::::::::::::::::::::	8 35 July 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	٠.		∕ <u>1</u> M201	1-541-104-00	PE2B55 "FAN"
		and the second of the second o			to logs
	•			/S/N. Up to	2585 (PAL)
CN201	1-509-891-00	BNC "VIDEO OUT 1"		1	10235 (SECAM)
CN202	1-509-891-00	BNC "VIDEO OUT 2"	888888888888888888888888888888888888888		Seek vince of the man
CN203	1-509-891-00	BNC "RF (OFF TAPE)"	∕∱ M201	1-541-104-51	PE2B55 "FAN"
CN204	1-509-176-00	XLR-3P (M) "AUDIO OUT			Magnetic and the magnetic and the second
		(CH-1/L)"		S/N. 12586	to 14355 (PAL)
CN205	1-509-176-00	XLR-3P (M) "AUDIO OUT		\S/N. 10236	to 10425 (SECAM)/
	4 500 450 00	(CH-2/R)"	M201	1-541-264-11	"FAN" DC
CN206	1-509-176-00	XLR-3P (M) "AUDIO OUT (MONITOR)"		S/N. 14356	and higher (PAL)
		(WONTON)		S/N. 10426	and higher (SECAM)
CN207	1-509-095-00	8P "MONITOR"	M202	8-835-056-01	DNR-1002A "THREADING"
CN207	1-561-045-00	7P (F) "DUB OUT"	M203	A-6709-402-A	DUH-14A-R, HEAD ASS'Y
CN209	1-508-945-00	7P (M) "DUB IN"	ir.		"DRUM"
CN210	1-509-471-00	18P (F) "TBC"	M204	8-838-019-01	BHF-1600A "CAPSTAN"
CN211	1-509-891-00	BNC "SC IN"	M205	8-835-050-01	MNR-4400A "T REEL"
			4.5		
CN212	1-509-891-00	BNC "VIDEO IN 1"	M206	8-835-050-01	MNR-4400A "S REEL"
CN213	1-509-891-00	BNC "VIDEO IN 2"	M207	8-835-055-01	DNR-4700A "CASSETTE C"
CN214	1-509-891-00	BNC "EXT SYNC IN"			
CN215	1-507-142-XX	PIN JACK, 2P "TIME CODE			
		IN/OUT"	845004	1-520-438-00	//\/DEO/DE//
		·	ME201	1-520-438-00	"VIDEO/RF" "AUDIO CH-1"
CN216	1-509-184-00	XLR-3P (F) "AUDIO IN (CH-1/L)"	ME202 ME203	1-520-439-00	"AUDIO CH-2"
CN217	1-509-184-00	XLR-3P (F) "AUDIO IN (CH-2/R)"	WEZUS	1-520-459-00	AODIO CH-2
A 0N000	4 500 540 65				
<u> </u>	1-509-546-00	3P (M) "AC IN"			
popular pro-produkti titi (1888) -	::::::::::::::::::::::::::::::::::::::		PL201	1-518-461-00	14V, 50mA "METER LAMP"
			PL202	1-518-461-00	14V, 50mA "METER LAMP"
CS201	1-586-633-00	CONDENSATION SENSOR	PL203	1-518-461-00	14V, 50mA "METER LAMP"
	. 222 000 00	23.22 2.13.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11 (2.11	PL204	1-518-461-00	14V, 50mA "METER LAMP"
			PL205	1-518-461-00	14V, 50mA "METER LAMP"
DME201	8-745-203-00	DM203 "CAPSTAN"	PL206	1-518-461-00	14V, 50mA "METER LAMP"
DIVILZUI					
DIVILZOT			PL207	1-518-455-00	12V, 55mA "CASSETTE LAMP"
DIVICZOT			PL207 PL208 PL209	1-518-455-00 1-518-455-00 1-518-455-00	12V, 55mA "CASSETTE LAMP" 12V, 55mA "CASSETTE LAMP" 12V, 55mA "CASSETTE LAMP"

- 1. The shaded and A-marked components are critical to safety.
 - Replace only with same components as specified.
- 2. Parts printed in Bold-Face type are normally stocked for replacement purposes. The remaining parts shown in this manual are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

Ref. No.	Parts No.	Description
PM201	1-454-279-00	12.4V 11 OHM "S TENSION"
PM202	1-454-278-00	11.3V 21 OHM "SKEW"
PM203	1-454-278-00	11.3V 21 OHM "S BRAKE"
PM204	1-454-278-00	11.3V 21 OHM "T BRAKE"
PM205	1-454-276-00	12V 40 OHM "PINCH"
RV201	1-226-616-00	VAR, 100K "TRACKING"
RV202	1-224-691-XX	VAR, 10K "VIDEO LEVEL"
RV203	1-228-140-00	VAR, 20K x 2 "AUDIO LEVEL
		(CH-1)"
RV204	1-228-140-00	VAR, 20K x 2 "AUDIO LEVEL (CH-2)"

À	\S2	201	1-553-159-00	ROCKER	"POWER"
		www.co	นานานานานานานานานานานานานานานานานานานา		

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TM201 1-548-100-11 "HOURS METER" Ref. No. Parts No. Description

18-4. PACKING MATERIAL AND ACCESSORY (SUPPLIED)

A-6724-244-A EXTENSION BOARD ASS'Y, EX-7 1-561-654-00 CONNECTOR, CARD, 86P LEVER, PC BOARD

1-556-760-11

2-251-622-00

CORD POWER

3-668-443-00 CUSHION, UPPER

/ P . . . S/N. up to 14025

S...S/N. up to 10405,

3-688-859-01 CUSION UPPER

/ P . . . S/N 14026 and higher \ S... S/N 10406 and higher

3-668-444-00 SPACER

3-668-445-00 CARTON, INDIVIDUAL

(P...S/N up to 14025) S...S/N up to 10405)

3-668-445-06 CARTON INDIVIDUAL

(P... S/N 14026 and higher S... S/N 10406 and higher)

3-668-446-00 CUSHION, REAR

P...S/N up to 14025 \

S... S/N up to 10405

3-683-616-03 CUSHION (REAR), LOWER

/ P . . . S/N 14026 and higher \ S...S/N 10406 and higher /

3-668-447-00 CUSHION, FRONT

/ P . . . S/N up to 14025\ S...S/N up to 10405/

CUSION (FRONT), LOWER 3-683-615-03

/ P . . . S/N. 14026 and higher \ S... S/N. 10406 and higher /

3-672-917-00 BOARD, PICK

P... S/N up to 14025 S...S/N up to 10405

3-688-812-01 SPACER SIDE

P---- S/N 14596 and higher

S---- S/N 10426 and higher

3-701-649-00 BAG, POLY (FOR BVU-800P/800S)

STANDARD PRODUCTS DUBBING CABLE (VDC-5)

1-508-948-00

PLUG, 7P, MALE

1-561-055-00

PLUG, 7P, FEMALE

STANDARD PRODUCTS: 9 PIN, REMOTE

CONTROL CABLE (RCC-5G)

1-560-651-00

PLUG, 9P, MALE

1-561-749-00

SHELL

NOTE:

The shaded and /in-marked components are critical to

Replace only with same components as specified.